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ABSTRACT

This collection of 12 papers was presented at a 1987 conference at which speakers presented personal perspectives on institutional effectiveness. Papers are organized under three major headings: "Managing Quality: Methods and Outcomes," "Institutional Response," and "Special Issues." Titles include: (1) "Managing the Meaning of Institutional Effectiveness" (Ellen Earle Chaffee); (2) "Institutional Effectiveness and Academic Quality" (Alton L. Taylor); (3) "Methodological Issues in Assessing the Outcomes of College" (Ernest T. Pascarella); (4) "Measuring the Value of College: Prospects and Problems" (Patrick T. Terenzini); (5) "Institutional Effectiveness" (James A. Montgomery); (6) "Organizing and Conducting Institutional Research Programs" (John A. Muffo); (7) "Criteria for Accreditation" (Richard D. Howard); (8) "Institutional Response Capabilities" (Brenda H. Rogers); (9) "Minority Recruitment, Performance, and Retention" (Michael Nettles); (10) "Institutional Effectiveness and Minorities" (Ansley Abraham); (11) "Key Ingredients of Institutional Effectiveness for Minorities" (Joseph Marks); and (12) "Minority Performance in Academic Settings" (Nathaniel Pugh). (All papers contain references.) (SM)

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ASSESSING INSTITUTIONAL EFFECTIVENESS

ISSUES, METHODS, AND MANAGEMENT

Cameron Fincher
Editor

THE UNIVERSITY OF GEORGIA
INSTITUTE OF HIGHER EDUCATION

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FOREWORD

The assessment of institutional effectiveness is a challenge to all institutions of postsecondary education. Accreditation standards for schools, colleges, and universities now require documentary evidence of effectiveness in meeting institutional purposes, and public expectations of such evidence are implied by many actions of state legislatures and other agencies of federal or state government. Postsecondary institutions thus are asked to state their purposes in unambiguous terms and to assess, in meaningful ways, the progress made in fulfillment of institutional goals and objectives.

In 1987 the theme of the fifth annual conference on research in higher education was carefully chosen with accountability and accreditation requirements firmly in mind. The conference theme was identified simply as, "Assessing Institutional Effectiveness," and program participants were asked to give professional or personal perspectives that would assist others in meeting public demands for accountability and/or accreditation. The conference, co-sponsored with the Office of Institutional Research and Planning, was held at the Georgia Center for Continuing Education.

Four dinner or luncheon speakers gave personal perspectives on institutional effectiveness from their respective positions as: (1) president of a rapidly developing and nationally recognized senior college, (2) vice president of the nation's oldest and most successful interstate compact, (3) executive vice chancellor of a statewide system of public higher education, and (4) associate commissioner for academic affairs *and* nationally known scholar on organizational studies. In her keynote address President Betty Seigel gave a commendable overview of Kennesaw College's emergence as a highly effective four-year college "on the perimeter" of a major metropolitan area. Vice President Bob Stoltz provided a well-informed commentary on the regional leadership of the Southern Regional Education Board and its efforts to address national demands for improved educational quality. Executive Vice Chancellor Dave Spence took a critical, but highly relevant, look at state-level efforts to ensure educational quality while increasing educational opportunities and access.

Because her after-dinner presentation went well beyond national concerns for assessment, Dr. Ellen Chaffee's incisive interpretation of institutional effectiveness is published as one of the conference's invited papers. Her paper gives excellent insight into our growing need to interpret more effectively the purposes and missions of postsecondary institutions. Her call for the management of meaning should be heard by all academic administrators, and her concept of interpretative leadership should give presidents, deans, and department heads a mantle they can wear with pride.

In his invited paper Dr. Alton Taylor, professor of higher education at the University of Virginia, discusses academic quality in terms that are particularly relevant to institutional effectiveness. The concept of quality has not been defined concisely, and if we are to assess institutional effectiveness in attaining academic quality, we must be willing to deal with concepts of value and merit. His views complement those of Dr. Chaffee, and together their papers give better substance and meaning to the methods by which institutional effectiveness can be documented.

In a special working session on the assessment of student outcomes, Dr. Ernie Pascarella, University of Illinois at Chicago, and Dr. Pat Terenzini, Institute of Higher Education, gave an excellent analysis and interpretation of the methodological issues in assessment and/or measurement. Institutional effectiveness can indeed be documented best by assessing changes in student learning and behavior. Dr. Pascarella points out, however, that in the assessment of change, our indices (or inferences) can be misleading. Dr. Terenzini makes a crucial point that is often missing in discussions of assessment: the validity and reliability of assessment methods are issues that demand full attention. In brief, institutional researchers, self-study committees, and many others should understand the difficulties involved in assessing outcomes *and* they should control or reduce such difficulties whenever possible by a more sophisticated application of analytic concepts and methods. For institutional researchers, the two papers by Pascarella and Terenzini should be required reading.

Dr. Jim Montgomery, in his unusually practical way, discusses institutional effectiveness in terms that all institutional researchers should understand. Student achievement and effective instruction can be assessed in many ways, and we are limited only by our resources and our imagination. We should not forget, however, that the purpose of assessment is the improvement of education. If effective management is needed to ensure institutional effectiveness, what better way to improve institutions than helping administrators evaluate and improve themselves?

In an equally practical way, Dr. John Muffo gives an excellent overview of institutional research programs. Institutional research is now conducted at many different levels of higher education, and information relevant to institutional analysis is now available from many different sources. National agencies and associations are particularly valuable sources of information related to self-studies, re-accreditation, and institutional effectiveness.

Dr. Richard Howard and Dr. Brenda Rogers, in their respective papers, provide exceptional insight into the Southern Association's new criteria for accreditation and the response capabilities of institutions seeking re-accreditation. As Dr. Howard points out, institutional self-studies now include summative evaluation procedures instead of formative evaluation efforts. The change in criteria thus calls into play an institution's ongoing institutional research. Institutions already involved in assessment and/or evaluation are involved thereby in self-study. In a survey of 311 institutions scheduled for re-accreditation, Dr. Rogers found significance variance in their readiness to conduct a self-study. To an embarrassing extent, institutions with existing institutional research offices were not currently engaged in ongoing assessment or evaluation and had no advantage over many institutions without institutional research offices. Dr. Rogers' study (with Dr. Karen Gentemann) should be required reading for all institutional researchers involved in a self-study.

Dr. Michael Nettles' paper addresses institutional effectiveness in minority recruitment, performance, and retention. His research implies an appreciable imbalance in the institutional distribution of minority students and significant variation in retention and graduation rates. The academic performance of minority students is predictable, however, and Dr. Nettles' studies at ETS have identified several significant predictors that should encourage institutions of higher education.

In a panel discussion following Dr. Nettles' paper, Dr. Ansley Abraham emphasizes the importance of remedial/developmental programs for increasing minority participation. Retention and graduation rates, in many institutions, are directly related to the academic support services that students receive. Dr. Joe Marks, in his comments, ties minority recruitment and retention directly to public expectations of institutional effectiveness. Efforts to improve institutional effectiveness should not negate institutional concern for minority access. Dr. Nathaniel Pugh, a third panelist, questions the representation of minority students in the development of assessment instruments. He reminds us that there are many ways of getting through college, and that we should study carefully the survival skills of students.

The publication of invited papers (only) requires an explanation and an apology to the invited speakers and to six colleagues who conducted three concurrent workshops during the conference. Dr. Margaret Sullivan, associate vice president at Georgia State University, conducted a workshop for conference participants interested in the institutional effectiveness of universities. Dr. Ed Rugg, vice president for academic affairs at Kennesaw State College, conducted a similar workshop for those interested in the self-study of senior colleges. And Dr. Faith Willis, director of institutional research at Brunswick College, organized a workshop on assessment in two-year colleges and technical schools. Working with Dr. Willis were Dr. Norma Seerley from Gainesville College, Dr. Katherine Nisi Zell from Brunswick College, and Dr. Jerry Shelton from Floyd College. The workshops were well organized, well received, and--according to several participants--the most helpful part of the entire conference.

The reasons for not publishing the speeches and workshop proceedings are partly technical and partly economic. Preparing camera-ready copy on a new computer was a slower process than anticipated, and transcribing the luncheon and dinner speeches from audio tape is not a process to be highly recommended. Two of the workshops involved extensive pass-out materials that could not be accommodated, and audience participation in the third could not be captured on tape or in print. The most understandable reason, however, is budgetary. The lateness with which the invited papers have been published is indicative of the funds which could be used for printing. Personal apologies, therefore, are very much in order!

In closing, the "quality, merit, or value" of our fifth annual research conference should be emphasized. It was, in all respects, an excellent conference and in publishing the following papers we hope to reach a larger and equally appreciative audience.

Cameron Fincher
June 15, 1989

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MANAGING THE MEANING OF INSTITUTIONAL EFFECTIVENESS

Ellen Earle Chaffee
Associate Commissioner for Academic Affairs
North Dakota Board of Higher Education

The interpretation rather than the assessment of what is going on in an institution is the subject of this paper. Such interpretation is as important as assessment and receives far less attention. The purpose of assessment is to identify areas for improvement. The purpose of interpretation is to create a climate in which improvement can occur. With the existence of raw data and much more meaningful information, interpretation is the next logical level.

In North Dakota most of the students take the Academic Competency Test (ACT) and the average score is 18.5, the national average. Surely this is one of the indicators for value-added or competency testing of outcomes assessment for K through 12 in North Dakota. Upon examining these ACT scores, the investigator finds two different groups of testees: those who take high school core curriculum, defined by the ACT to be four units of English and three of science, math, and social studies, and those who do not. Students who took the core curriculum had an average score of 21.5, while those who did not take the core curriculum had an average score of 16.5--a five-point spread with more than half the students not having taken a core curriculum. Those are the results of an assessment, but what do the results mean, what should be done, what is evident about K through 12 or higher education? Those are the kinds of interpretative questions which proper assessment raises. The next question is where to go from here.

One of the obvious touchstones for effectiveness is the mission of an institution. An institution cannot know how well it is doing unless the institution understands what it is supposed to be doing. Since this is as true for a system of institutions as it is for a single institution, what is the mission for a system of institutions such as the North Dakota Board of Higher Education?

The North Dakota Board does have a mission statement--among such agencies, that kind of statement is not obviously a component of good management--and other such agencies have similar statements. The first sentence from each of two such statements, North Dakota's and one other, illustrate the point that mission statements are not bland, nondescript truisms, but have the power to convey very different messages.

Here is the first example: "The primary objective of the Board is to ensure a diversified, balanced, and high quality system of public higher education that provides to citizens who can benefit from an opportunity to attend appropriate institutions of higher education."

And the second: "The goal of the Board is to afford the citizens of the state an efficient, readily accessible, and economical system of high quality public higher education through centralized direction and master planning, providing for avoidance of unnecessary duplication within the system, for coordination and consolidation."

The first focuses on the services, the second on their management. The first focuses on effectiveness, the second on efficiency. What does such language convey--to Board members about their responsibilities, to institutions about their leadership, to the public about its investment? Which will elicit more public support? Which will elicit better faculty morale? Which will provide for higher-quality higher education? As for the North Dakota statement, a major effort to rewrite it is being undertaken.

Language is important. In fact, every single thing an administrator or faculty member does is important in the life of their organization. The reason words and deeds are especially important in higher education institutions is that the margin is all that is available to work with. The organizations' fundamental purposes are established--organizations cannot go into the senior citizen center business to capitalize on changing demographics. Their administrators face constraints such as resource scarcity, specialization of personnel, tenure, and the professional basis of the industry, to name a few. Institutions that tested the limits of such constraints during the 1970s often suffered severe consequences in quality and credibility. Institutions can only be improved and must be improved through marginal change. To do that, every word and deed must count.

Another reason for the importance of language and other tools for managing meaning is that the factors of production are primarily people, including custodians, secretaries, faculty, cafeteria workers, and students. Some say that higher education is a labor intensive enterprise. A better statement is that higher education is an intensely human enterprise. Any successful marginal changes are always attributable to the ability to marshal the energy, talent, and imagination of people; and people are moved when they understand and share a dream.

A brief example illustrates the point. Telecommunications is a major (new?) phenomenon in higher education. Many in education have finally become convinced that educators should be thinking and doing things that capitalize on telecommunications technology, even in North Dakota, which has very little technology and no money. North Dakota's legislative study group on the topic had a fairly perfunctory attitude toward its task until the head of the public television system got to a key paragraph in his testimony. "I am imagining a Thursday afternoon, a few years from now," he said. "A home-bound handicapped woman in Minot is taking an economics class at the university in Grand Forks; two bright seniors at Bowman high school are learning advanced physics with a class in Fargo; a farmer at home in Oakes is receiving a tutorial on computer tools that can help him manage his buy-and-sell decisions; managers in the various offices of the power company are having a seminar with a national expert in Minneapolis; . . ." and on he went, painting a vivid word picture of what telecommunications could mean in people's lives. The mood of the committee, and the probability that anything worthwhile would come of its work, changed dramatically.

Managing the meaning of institutional effectiveness has three components that this paper will address: the tools available for managing meaning in institutions, two important concepts of leadership (transformational and interpretive), and common mistakes observed in peoples' efforts to interpret mission and manage meaning.

Tools for Managing Meaning

Formal mission statements are important and are a vital component of the management of meaning. But beyond official language, there are other tools for managing meaning.

Informal Language: Following is a hypothetical story of the importance of informal language. Imagine the president of a struggling private liberal arts college in a small town on the prairie. At 3 a.m. the fire department responds to a call that his college's gymnasium is burning. By 6 a.m., the building is a total loss and the local reporter has called to get the president's reaction. What does the president say?

He may be tempted to moan that his capital drive to renovate the major classroom building has just begun, winter is coming and the students will be absolutely wild or thoroughly depressed if they have no facility for physical activities, and this is a truly tragic day for Harmony College. On the other hand, he might say, "Thank heavens it happened at a time when no one was in the building--everyone is safe and sound. You know, that building was pretty old, and it really wasn't the kind of place that we could share with the local high school and the senior citizens centers. It won't be easy, but we just might be able to work together to create something better for all of us." The point is obvious.

Feedback and Information: Feedback and information as a category of informal language is a major deficiency for most people, for they tend to assume that people know why they have made certain decisions. The assumption is seldom warranted and can be extremely harmful.

To illustrate, one university was loaded with tension between the faculty and the administration. The faculty had little confidence in the president and saw numerous needs unfilled. To take a small but illustrative example, some of the faculty had offices with no overhead lights and no bookshelves, despite repeated appeals. One week, the faculty saw trucks and workers galore, all around campus, doing things to the trees. Imagine the outrage--there is enough money to tend trees, but not faculty. What they did not know, and probably do not know to this day, was that the university had not paid for the tree care. The administration never explained what was going on or why, and the incident added fuel to the faculty's fire.

Decisions: It is important not only to explain decisions and actions, but also to make the right ones. An example of a president who forgot that was the builder-president who had taken a small private college successfully through the growing 1960s and did not quite know how to respond to the decline of the early 1970s. One spring he spent $10,000 of college money on the flower bed around the president's on-campus house. The faculty was not pleased when someone calculated that that was more than the sum total of all faculty raises that year.

Behavior: What one does also speaks loudly. A new elementary school principal is walking a different child home from school each day so that he can get to know them and their families. It is a simple act, obvious in intent, not very time-consuming, but unusual enough that although this principal is in Wisconsin, news of him was broadcast on the radio in North Dakota.

Physical Facilities: The following are two positive examples of how physical facilities of one college sent powerful messages. First, in the midst of widespread rumors that the college would soon close, the town also heard that the neighboring military school might be acquired by a foreign government for uncertain purposes. The college president rallied alumni support to buy the military school, thereby quelling the rumors of closure, making the town very happy indeed, and acquiring badly needed greenspace and buildings for a brighter future. Second, the renaissance of this liberal arts college seemed to require infusion of business programs. The president used several means to calm the faculty about the potential loss of the liberal arts mission in this change. One such measure was to dedicate the first renovation on the acquired campus to a fine-arts building.

A negative example occurred on two campuses where the administrative officers were physically separated from the main campuses. In one case, a mile of empty prairie, owned by the university, was the barrier. In the other, the distance was only a couple of blocks, but it was mostly unimproved dirt that became a sea of mud every spring and fall.

Two Concepts of Leadership

Theoretical leadership literature presents two ideas that clarify how and why it is important to manage meaning. The first is transformational leadership, an idea first proposed by James McGregor Burns in 1978. Transformational leadership involves responding to the higher-order needs of individuals in an organization. Burns asks leaders to recognize the merits of Maslow's hierarchy of human needs as a guide to leadership action. The basic needs are for food and shelter. Moving up the scale, people also need a sense of safety, love and respect, and ultimately what Maslow calls self-actualization--the expression of their highest principles and abilities. Good leaders, according to Burns, are those who create circumstances where individuals can achieve those higher-order needs. Such circumstances also make it possible for leaders to learn and satisfy their own higher-order needs. Burns' prescription elicits human leadership and motivated followers who are themselves, in their own ways, leaders. Obviously, it requires a clear focus on the people of an organization, enables them to contribute to the maximum of their abilities, and attracts high-quality staff who want to be part of such an enterprise.

The second idea, interpretive leadership, is not yet well-developed in the literature. The term is coined from research on strategic management that shows the importance of interpretive strategy for effective organizations. Interpretive leadership is similar to transformational leadership in its focus on the people of an organization, but perhaps narrower in its scope. The purpose of interpretive leadership is to get everyone in the organization on the same ship with a clear sense of where the ship is headed. It accepts truth in the saying that if you do not know where you are going, no wind is favorable. Interpretive leadership responds to the frequent calls for a vision of the organization. The sense of direction that a vision can bring responds to one of people's higher-order needs when they operate in a collective setting. People need a sense of shared purpose, to help them remember why it is worth getting up in the morning to go to work, and to provide a context in which they know what kind of work will elicit positive responses for the organization and themselves. In addition to shared purpose, people need to know what to make of various facts and incidents that litter the organizational landscape. The meaning of things is not obvious, as in the case of the fire that destroyed the gymnasium. Interpretive leadership recognizes what needs to be interpreted and finds ways to cast the interpretations that are constructive and coherent with a desired overall picture.

Interpretive leadership contributes organized direction and a capacity to make the kind of marginal changes needed in higher education, and every marginal change must be made in the desired direction. Therefore, interpretive leadership is the key to effectiveness in organizations.

Colleges and universities need both transformational leadership and interpretive leadership--the first to ensure high morale among key "factors of production," the second to ensure coordinated movement in a desirable direction. Research has conveyed little about how to carry out such leadership; yet the research available shows that both effective leadership and effective teaching produce results.

There are two central tasks of both transformational and interpretive leadership. The first central task for leadership is to answer the question, "What direction should we head?" One public college summarized its answer in the phrase, "to become the number one state college in our state." The goal was often shortened to "becoming number one," but all involved understood that the limiting qualifier, state college in our state, was intended.

This goal demonstrates several of the key characteristics that any such answer should have. First, it was consistent with the history and tradition of the college. It did not change the mission of the institution, but rather called forth efforts to achieve the mission to the Nth degree. Second, it was responsive to current circumstances, inside the institution and outside it. The college had taken advantage of faculty shortages in the 1970s to attract some exceptionally able individuals, yet it was also under siege from the difficult economy of the state and fierce competition from the numerous other state colleges there. Third, the goal was pragmatically feasible. The college had the necessary assets to accomplish it.

The goal also carried action implications for diverse actors. No matter what the job title of any individual, from groundskeeper to business officer to faculty, academic dean, and president, there were ways in which each person could help make this the number one state college in the state. The goal was open to individual ideas about how to achieve it, thereby taking advantage of the maxim that all of us are smarter than any of us.

In addition, the goal elicits pride--it is upbeat, positive, inspirational. Recently an academic vice-president had been criticized by some for her eternal optimism. After a summer with peers from other institutions at the Harvard management institute, she returned persuaded that her college's problems were not nearly as bad as those of others, and her optimism was justified. She decided to maintain her attitude but to reject any need to apologize for it. Even in adversity, it is legitimately possible to adopt a positive tone. Finally, the goal of this college was succinct and internally consistent. People both inside the college and outside it had an image of what a number one state college was and they could see the possibilities all around them.

After deciding where an institution is going, the second key question good leaders must answer is, "What kinds of decisions/actions can get us there?" The most important factor in answering the question is to recognize that all decisions and actions are potentially relevant; they must be consistent with the vision. If compromises are necessary in the short term, they must be explained as compromises, the reasons given, and the path to progress defined. Constant communication and feedback are absolutely necessary. Leaders must remain open to ideas that rise from lower levels of the organization. To close that route is to squelch opportunities for need-satisfaction among participants in the organization.

Common Leadership Mistakes

Although these prescriptions probably sound obvious, they are not so easy and many mistakes are made. Following are six common leadership mistakes and subtle ways in which those mistakes could have been avoided.

Hidden Agendas, Manipulation for Ulterior Motives: One turnaround president came to a small public college from a major research university. He came to make a name for himself in a short time so that he could return to a major research university in a higher position than he had had in such an institution before. His strategy was to try to turn the place around as quickly as possible, and his approach was high-energy autocracy. He worked by organizing projects, writing long memos and directives, making non-consultative decisions, and holding high expectations of himself and his staff. The place was turning around, but the cost in antagonism, alienation, and burn-out was becoming high. It was obvious to most that the president did not really care about the college, and small mutinies were in the making.

Potential presidents in such situations can take other routes. First, they can seriously question whether a presidential opportunity is really right for them and their objectives. In this case, the president might have done himself and the college a favor by declining the position. Or, a subtle alternative to this president's approach would have been to recognize that fame and higher opportunities come more readily from doing really well for an institution than from displaying certain key talents regardless of their appropriateness for the situation.

Trying to be All Things for All People: For example, an urban university went all-out to recruit students from other states, despite the fact that the university had no residence halls and that housing in its neighborhood was virtually non-existent. Another example is a rural private college that started two adult-education centers in other towns, one of them dedicated to vocational training to capitalize on the availability of federal funds under the CETA program. Its liberal arts image was shattered by the strange juxtaposition of unemployed vocationally oriented adults with its traditional college students, and it had no expertise to perform its vocational programs well. The number of liberal arts colleges that were hoisted on the petard of rising vocationalism is enormous.

There are two subtle alternatives to these misguided efforts to do too much for too many. The first is doing a sharply limited number of new things that express a twist on the mission while attracting new support. One private liberal arts college added a business program by capitalizing on its strength in economics and ethics, attracting considerable involvement and support from its corporate trustees.

The second is to make serious efforts to educate the constituency about the value of what an institution already does. Liberal arts colleges that waited out the vocational boom with various efforts to find students who understood the value of liberal arts and inform others who could develop that understanding are now enjoying the fruits of national reports that convey the same message to a wider audience.

Refusing to Deal With Incompetence: Nothing undermines initiative and pride more quickly than institutional tolerance of poor performance. Incompetence is tolerated for many reasons, such as the unpleasantness of dealing with it and a false sense that tolerance is a humane alternative to firing people. A subtle alternative to these views is recognizing that people usually know when they are not doing their jobs well and that doing their jobs poorly does not make them happy. Tolerating their incompetence is the antithesis of transformational leadership. What is needed are humane ways to help people find employment (in or out of the institution) that will allow them to shine and grow.

Aiming Higher Than You Can Shoot: Sometimes institutions state aspirations that they cannot reasonably achieve, at least not in the short or medium term. That was the case in one university that aimed to be a world-class research institution. It was only fifteen years old, was in a wealthy state, had an excellent research faculty in some areas, and in the long term may achieve that aim. But the library was so sparse that one faculty member spent over $4,000 annually for books he needed to supplement the library's collection, and many of the faculty were too young to be fully competitive for major research grants. As the state entered an economic slump, achievement of the goal receded into a future that few expected to see during their careers at that institution. The immediate effect on the faculty was deep-seated frustration.

A subtle alternative would have been to narrow the context of the goal with a qualifying statement--for example, a world-class research university for the twenty-first century, or an emerging world-class research university. Another would have been to admit the shortcomings, set to work on fixing them, and report all progress as it occurred.

Inconsistent Actions: Inconsistencies in higher education are rampant. Institutions tout the importance of teaching, but promote on the basis of research, or recruit adult students without providing evening and weekend classes or opening student service offices during that time. No subtle alternative exists for this problem. Presidents and institutions must be consistent in their multi-faceted efforts to achieve what they say they want to achieve.

Equating Growth With Size: This fallacy has been well-known at least since the publication of E.F. Schumacher's book *Small is Beautiful.* Yet institutions continue, as Hutchins pointed out in 1936, to degrade themselves in the name of tuition income. The press continues to imply that record enrollments are the single indicator of successful institutions. Donors continue to look at building construction as a major sign of effectiveness.What is needed is leadership that takes pride in what exists at an institution while inexorably challenging it to become better--not bigger. Such leadership is needed in the great majority of colleges and universities.

INSTITUTIONAL EFFECTIVENESS AND ACADEMIC QUALITY

Alton L. Taylor
University of Virginia

Effectiveness and quality are two words that were communicated with ease until directed attempts were made to assess them. Currently, few scholars have attempted and none has succeeded in a description of these terms that will unequivocally suit the needs of institutions, researchers, accrediting agencies, state agencies and other external interests. Research attempts to define and experiment with institutional effectiveness have been meager and the use of the construct of quality in academia has resulted in individual definitions that suit the context of purpose. Over the years, however, some of the most influential thinkers about higher education described some clear, usable and useful directions for thinking about assessing institutions and academic quality.

In 1974, Bowen stated: "The idea of accountability is quite simple. It means that colleges and universities are responsible for conducting their affairs so that the outcomes are worth the cost." This implies that achievements of institutions should be directed toward their missions and goals (intended outcomes). Evidence of achievement of these intended outcomes should be gathered and their needs, special interests and legal duties reported. "The process is bound to be difficult, expensive, and in the end subjective and judgmental" (Bowen, 1974).

Bowen's instructions continue to be helpful to those who have the duties for making judgments about how good and effective their academic programs and institutions are as a whole and to what degree internal and external groups influence decisions for resource acquisitions. The purpose of this paper is not to debate the various positions on institutional effectiveness and academic quality, but is to attempt to create a structure for reflection about effectiveness and academic quality in higher education.

Institutional Effectiveness

Institutional effectiveness, in the most general sense, is the degree to which an institution accomplishes desired effects. In higher education, the considered effects of desired accomplishments can be found in a statement of goals and objectives. Effectiveness of the institution also must be considered in relation to needs and problems of public and special interest groups which justify their support and existence.

Other approaches to defining institutional effectiveness are reported by Cameron (1985). These include the Goal Model (including both operative and official goals) which defines effectiveness as the extent to which an organization accomplishes its goals. This model is supported by Etzioni, 1961; Campbell, 1977; Price, 1972; and Scott, 1977. Next is the Systems Resource Model suggested by Seashore and Yuchtman, 1967. This model defines institutional effectiveness as the ability of the institution to obtain needed resources. Inputs replace outputs as the primary consideration. The third model described by Cameron (1985) is the Process Model suggested by Argyris, 1964; Bennis, 1966; and Likert, 1967. In this model effectiveness is defined in terms of how well the internal organization operates with its processes and procedures.

Effectiveness of institutions indicates that institutions as entities have effects on internal constituents and the external environment. Effects on internal groups include those employed and enrolled. Effects on external groups include everybody else. Effects also may be considered in terms of physical phenomena (i.e., esthetics of buildings). In a pragmatic sense of judging a college or university, the fundamental features of an institution are reflected in students (admissions, enrollment, graduation, drop-outs, financial aid, housing, social organizations, etc.), faculty (employment, tenure, productivity, salaries, benefits, working conditions), facilities (laboratories, offices, libraries, etc.) and all the array of support units from security to the print shop. Judging effects at the institutional level must be comprehensive and insightful. Evidence collected about these effects must be clear, understandable, and articulated within a decision process clearly understood by those requesting the evidence and those in the internal environment. A simplified category for most institutions includes the traditional missions of higher education--teaching, research and service. Fundamental to public institutions is the teaching mission. Ideas regarding the effects of teaching and academic quality, however, are not satisfactory to convince many who are interested in clear, unequivocal evidence to make informed decisions to improve the teaching and learning that presently goes on in the college classroom.

Academic quality is a subjective, relative construct and means how good the academic programs are in relation to some agreed-upon standard or individual intrinsic value referent within a situational context.

Traditional approaches used to define and measure academic quality include nihilist, reputational, resources, outcomes and value-added (Astin, 1982). The nihilist approach contends that quality cannot be defined and measured. The reputational approach is based on consensus of opinion and is measured in terms of student selectivity, enrollment size, and size of graduate faculty. The resources approach is defined and measured in terms of highly trained and prestigious faculty, institutional affluence, and bright students. The outcomes approach is based on the quality of degree recipients in terms of employment, earnings, and important positions obtained. Value-added is another approach to defining quality and resides in the institution's ability to affect its students favorably in their intellectual and personal development. While each of these approaches may have relevance to defining and measuring academic quality, there is no agreement that these approaches are convincing to most persons needing to understand and judge academic quality.

The word "quality" is similar to the word "effectiveness." Neither word has a clear, concise and unequivocal definition suitable to those who search for understanding and those who are charged to assess institutional effectiveness and academic quality. There are a few selected features about academic quality, however, which shed some light on the dilemma of a lack of consensual understanding.

An appreciation for the difficulties in the failing to obtain a consensus about academic quality may very well rest in the philosophical nature of meanings and interpretation. Aristotle's description of quality has some connotations for academic quality. The thought he suggested which may be applied to academic programs is that of an affective quality. This means that academic qualities are capable of producing an "affection in the way of perception" (Aristotle, p. 24). It assumes that the perceiver is attempting to perceive the qualities of an academic program and not just random occurrences.

Academic quality is a genuine property in the sense that the quality of a program does not depend on whether a person is actually aware of such quality. It is real and exists; it is not counterfeit. Primary qualities of a program are those which a program can have on its own, independent of any perception. Secondary qualities are not in the object but are those subjected by the perceiver and may be listed in terms of assumptions or intended outcomes.

While quality has no structure, academic quality is a public expression in the sense that judgments of quality are based on certain standards which are public standards. Perceptions of academic quality cannot go unnoticed by either overt behaviors or feelings. Identification of institutional and program quality is individually sensed by means of public schemata which were learned.

Academic quality is a correlative of good; so is institutional effectiveness. The process of determining academic quality aims, not only at clarifying the purposes of the program, but also, if intentions are right, at achieving or maximizing values. If a program has high quality or is very good, it only means that and nothing else.

The quality of academics rests upon the functionality of the programs. Because academic quality is always relative to some purpose, and goodness may not be, a program is of high quality if it does a good job of fulfilling some purpose or performing some function. No matter how good something is, we always want more.

Institutional effectiveness and academic quality are two terms which may easily be confused. While it is natural for academic minds not to deliberate or ponder ideas about effectiveness and quality, the pragmatic and political minds are directing institutions to show evidence and convince the public that their support is highly justified. A scrutiny of merit and value might be helpful to reflective thought that explores effectiveness and quality in higher education.

Merit and Value

Describing and judging merit and worth within an institutional context is important in completing the process of assessing institutional effectiveness and academic quality. Merit of institutional effectiveness and academic quality is a judgment of values on their own intrinsic, context-free value. Judgments of the worth of effectiveness and quality have value within some context of use, application, extrinsic or context-determined value.

While merit judgment is based on intrinsic features of an object, these judgments remain relatively stable over time. Worth judgments of effectiveness and quality depend on internal and external environments which change and range over time. Emphasis on institutional effectiveness and academic quality for enhancement and progress are constrained by the pluralistic values of the internal and external groups. There is usually a lack of total agreement, both internal and external, as to judgments of effectiveness and the academic quality of a college or university. Merit judgments are conducted by a group of experts who agree as to the intrinsic value of academic quality; worth, on the other hand, is judged by comparing the institution's and program's effect of impact and outcomes to some external requirements or standards.

There are several criteria for determining the worth of institutional effectiveness and academic quality. First, there are alleged values which are found in public announcements and mission statements. Actual values are those deduced from what an institution does, that is, as seen by the emphasis and resources allocated to the teaching, research or public service missions. Interest values reveal the benefits for the success and progress of the institutions. Effectiveness and quality judgments are expected to be related to support and resources obtained. Ideal values include those virtues of social morality and intentions of good for society. These values are intrinsic and difficult to identify for the public.

Discussion

Institutional effectiveness is considered at the highest level of thought for the organization. Responding to questions for judgments concerning what affects an institution is conditioned upon the context of purpose, motives and needs for responses by the inquisitor, and expectations of the persons in charge of providing evidence of effectiveness. Purposes and expected achievements are fundamental to judgments about institutions. The most essential precondition of purposes for most, or nearly all, colleges and universities rests upon the academic quality of the institution. Academic quality is reflected in complicated, interactive operations which include the students, faculty, facilities, resources and the internal atmosphere within which people work together for the overall progress and existence of the institution.

As complicated and contradictory as the approaches to defining and judging effectiveness and academic quality of an institution may appear, there are two features for judgment that are fundamental in order for judgments to be made; these are purposes and expected achievements. In considering purposes and expected achievements, there are those that exist because of their intrinsic good and those that have worth values, both of which are accepted and supported internally and externally by the institution. When conducting assessments of institutional effectiveness, judgments of worth are easier to consider and collect evidence to persuade decision makers of the value of the institution. Decisions of merit are difficult to use in persuading and obtaining consensus because of the diversity and pluralistic values and motives of special interest in the external environment.

The academic mindset uses positions of academic merit to convince external groups of the worth of the institutional welfare and contributions to society. Conversely, the public makes decisions about these contributions and the role of higher education on bases of worth values. Contexts--as to referent needs and problems, timing of social and economic problems, trends and individual experiences, and public motives--have a more profound influence on worth judgments than those of merit. Attempts to render decisions and obtain consensus about institutional effectiveness and academic quality based on merit premises are not as easy as those attempts to convince judges based on worth values.

Merit values are usually associated with academic mindsets, but also are more prominent in the nonprofessional faculty groups. Professional disciplines, by their nature, role, purpose, and expected achievements, can make convincing reports more aligned with worth values than nonprofessional faculties can.

In closing, academic quality is fundamental to institutional effectiveness. The effects of an institution should be judged in context with purposes for making the judgments, goals and expected achievements and the traditional aspects of organizational mission, structure, strategy, and governance. Merit and worth values of effects and academic quality should be considered in relation to the duties and motives of intended judgments and those making judgments.

While one may believe that what sustains and enhances higher education are those few influential persons who can convey institutional effectiveness and academic quality without saying a word, the rest of us need evidence to persuade us of the merit and worth of colleges and universities.

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METHODOLOGICAL ISSUES IN ASSESSING THE OUTCOMES OF COLLEGE[1]

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One of the watchwords of higher education in the late 1970s and on into the 1980s has been "accountability." Public institutions, in particular, are being called upon to document their effects in terms of student learning and development (Fincher, 1986; Hartle, 1986). Often the impetus for this call to accountability is state government and the higher education coordinating or monitoring boards which, in a number of cases, report directly to the governor or the state legislature. In my own state, the Illinois Board of Higher Education has studied the condition of undergraduate education and made recommendations to the state legislature. Two pertinent recommendations are as follows:

1. Colleges and universities shall conduct regular reviews of undergraduate education with emphasis on general education and the development of baccalaureate-level skills.

2. Each college and university shall assess individual student progress in meeting the objectives of general education and the development of baccalaureate-level skills, and shall incorporate the results of assessment in the reviews of these areas. It is expected that colleges and universities will assess student progress at appropriate intervals and assure that assessment programs reinforce the maintenance of academic standards.

State-mandated student assessment in Illinois is certainly not an isolated case, as an increasing number of states are moving in a similar direction. Moreover, it is likely, based on the widespread impact of the recent National Institute of Education Report, *Involvement In Learning* (1984), that the current emphasis on estimating the student outcomes of higher education will be with us for the forseeable future.

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One of the more recognizable approaches to the assessment of student outcomes is the concept of "value-added." Value-added typically examines actual or inferred changes in students' performance over time. Students are assessed for entering competencies on some set of reliable and valid instruments, and then are reassessed following a specified period of time (e.g., freshman to senior year) or the completion of certain courses, programs of study or other educational experiences (McMillan, 1986). Value-added has another implication, however, which goes beyond simply looking at pre-post changes on some measure of interest. Specifically, it attempts to separate that portion of student growth or development experiences from that attributable to confounding causes such as differential ability or simple maturation.

In short, value-added entails an estimation of the "net effects" of college. It must be acknowledged that its operational definition is likely to vary with who uses the term, in what context and for what purpose (Ewell, personal communications, May 9, 1986). For some institutions, value-added may be inferred from simple freshman to senior changes in measures of cognitive development or learning (Lenning, Munday and Maxey, 1969; Dumont and Troelstrup, 1981). For other institutions, the value of the education they provide may be evidenced largely by the accomplishments and retrospective evaluations of graduates (Spaeth and Greeley, 1970; Pace, 1974). Still other institutions may see value-added largely as I have defined it, and may concentrate on estimating the new effects of the collegiate experience (Mentkowski and Strait, 1983). Furthermore, even within the same institution, it can mean different things to different administrative, faculty, student and alumni constituencies. Who decides what is valuable, for whom it is valuable, and to what it is added?

Clearly value-added may not mean the same thing to all who use it. Indeed, as Ewell has pointed out, the operational definition of the term is still quite flexible and vague, and this vagueness may vary in direct proportion to its increasing use in public dialogue.

A Recent Debate on the Value of Value-Added Assessment

Perhaps in part because of the lack of a clear operational definition of the term, the concept of value-added has recently become the focal point of a spirited controversy. Some of the most respected names in the postsecondary scholarly community have chosen sides on the issue. Jonathan Warren (1984) has published an enthusiastic and cogent criticism of value-added. The gist of his argument is that, while in the abstract the logic of value-added has great appeal, in practice it seldom leads anywhere. The results of value-added analyses, he argues, "are often trivial, difficult to make sense of and peripheral to most instructional purposes" (p. 10). Warren's argument focuses largely on one level of analysis, the use of the value-added approach in assessing course-level instructional outcomes. Here he makes some telling points about the questionable practice of using pre-post differences as a measure of student learning in courses such as upper-division electromagnetic theory, where students can be assumed to have little pre-course content knowledge. Simply finding that students understand course concepts on the final examination is, he maintains, sufficient evidence to infer that most of the observed learning was a consequence of the course. A similar argument has been made by Pace (1985).

Warren's recommendation is that we need to abandon the unworkable concept of value-added and get on with alternative ways of assessing the effects of postsecondary education. Cameron Fincher (1985) is less convinced that value-added is a blind alley which needs to be abandoned, yet he is similarly skeptical in elucidating problems in its implementation. These problems, he argues, center on: (1) the development of reliable and valid instruments to measure various educational outcomes; (2) psychometric problems in assessing change; and (3) conceptual problems in interpreting college effects on achievement when most of the variation on achievement may be due to student aptitude, prior achievement and the quality of student learning effort rather than to instructional variables. While not necessarily ready to abandon the concept, Fincher is nonetheless skeptical about the ability of educators to apply value-added concepts to educational issues. He suggests that "if educators could agree on the assessable outcomes of higher education, take the time and effort to develop suitable forms of measurement and assessment, and restructure instructional efforts in terms of explicit instructional objectives, value-added concepts of education might then be a solution to some educational problems" (p. 398).

Fincher's points are well taken. One must wonder, however, whether the issues which he elucidates are specific problems of a value-added approach to student assessment. A reasonable argument could be made that educational and behavioral research in general have traditionally been confronted with these and similar assessment issues. The knotty problems of instrument validity and student learning attributes to specific instructional practices are longstanding, if not adequately resolved, concerns of those interested in the effects of schooling at all levels (Wittrock, 1986).

Responding directly to Warren (1984), Astin (1985) and Ewell (1985) have defended value-added as an important contribution to thinking about assessing the impact of postsecondary education. Both authors readily admit that the approach is not without its problems. At the same time, however, they argue that it has conceptual strengths which outweigh these problems. These include: (1) a focus on actual student development rather than typical measures of institutional "prestige" or "quality" (e.g., student body selectivity, resources per student, library size); (2) the requirement of clearly defining, in conceptual and operational terms, the desired outcomes of college or other educational experiences; and (3) systematic attempts at assessing the impact of educational experiences. They also argue, quite convincingly, that value-added as an approach to evaluating the impacts of college has been implemented in a systematic manner in only a few postsecondary institutions (e.g., Alverno College). Thus, abandoning value-added now would be the equivalent of dismissing an idea with a considerably rational appearance "before it has been more extensively tried, evaluated and is better understood" (Astin, p. 11). Clearly, Astin and Ewell want to avoid throwing the baby out with the bathwater--at least until we have a chance to see how the baby matures.

Astin and Ewell make another point in their defense of value-added. Warren's critique, they suggest, is based almost exclusively on a single level of analysis, (i.e., student learning in a single course). Ewell concedes the point that there may be course situations involving a well-defined, specialized body of knowledge to which students were not previously exposed where pre-testing makes little or no sense. He further asserts that this is far from a valid critique of the entire value-added concept, however, since value-added is clearly useful in assessing cognitive and developmental outcomes of curricula and educational experiences more broadly conceived than individual courses. Indeed, it is in assessing these more broad-based effects that value-added has had its most typical application in postsecondary education.

It seems unlikely that the current debate concerning the utility of value-added assessment is over. The term itself is too value-laden and perhaps a bit overly pretentious in its public use by educators. In this sense it may appear to claim more than many current applications of value-added assessment have been able to deliver. As a result it will probably continue to invite spirited criticism which, in turn, adds fuel to an ongoing debate. If this debate is to contribute light as well as heat, however, it may be advantageous to do two things. First, consider redefining value-added as the very fundamental and traditional research question: what are the student developmental outcomes associated with exposure to an educational experience which can be reasonably attributed to the educational experience itself and not to other factors? This is the "net effects" question, and it is far from being a new concern for educational researchers and evaluators (Feldman and Newcomb, 1969; Solmon and Taubman, 1973; Bowen, 1977; Astin, 1977). Indeed, a basic issue in educational research and evaluation has long been the extent to which student development can be attributed to purposeful educational experiences. This is also, I believe, the core of what a value-added approach to student assessment is about.

Second, place the discourse about value-added on a different level. If there is willingness to accept value-added as a potentially important approach to the assessment of student outcomes, then it behooves to consider ways in which the methodology of the approach might be enhanced and sharpened. The remainder of this paper will suggest and discuss a number of such methodological enhancements.

Pre- to Post-Changes: Improvement Can Be Misleading

It is often the case that the value-added or net effects of an educational experience will be inferred from pre- to post-changes (say from freshman to senior year) on some accepted measure of student development (e.g., critical thinking, moral reasoning, reflective judgment, ACT-COMP scores). Unfortunately, even assuming the reasonable reliability of change scores, such mean changes reflect not only the effects of college, but also the effects of simple maturation. (Other variables such as history, instrument decay, and possibly even regression artifacts if the group is extremely low to begin with could also confound interpretation, but it is likely that maturation over time would be the major confounding variable.) This, of course, means that longitudinal freshman-to-senior changes probably overestimate the effect due to college alone (i.e., the unique effects of college).

One possible way to deal with maturation is through the use of a control group of subjects followed over the same period of time, but not exposed to the particular educational experience. In the situation where one is assessing institutional effects, however, reasonably comparable control groups not attending college are particularly difficult, if not impossible, to obtain. For such situations there are alternative cross-sectional or combined cross-sectional and longitudinal designs which provide reasonable controls for maturation. Consider the cross-sectional design where freshmen are compared with seniors on a measure of critical-thinking ability. The freshmen, who have not been exposed to the institution, would act as a control group for the seniors, who have theoretically benefited from four years of exposure to it. (To better reflect the entire college experience, the measure of critical thinking might be given to freshmen upon enrollment in the institution, and to seniors in the final semester or quarter of their senior year.) The difference between the average freshman and average senior scores, statistically adjusted for differences in age, could be used to estimate the impact of the institution on critical thinking.

There are, of course, potential problems with this design which must be addressed. First, seniors probably represent a more selective group in terms of academic ability since a portion of the least academically proficient are likely to have flunked-out or to have left for academic reasons. Second, there is the possibility of differential recruitment or admission criteria being used for the seniors versus the current freshmen (e.g., if the institution used a more stringent set of admissions criteria for the current seniors as versus the future freshmen, the former might be a more academically select group than the latter). This might also lead to systematic group biases on a factor such as academic aptitude which, in turn, is likely to influence level of critical thinking. While acknowledging that there is no ideal way to adjust for such preexisting differences (Lord, 1967), one might nevertheless select the freshmen to be compared from SAT or ACT ranges similar to those of persisting seniors, and accompany this with regression analysis to provide aptitude as well as age-adjusted critical-thinking means for the freshman and senior groups. The difference between the aptitude and age-adjusted means would likely yield a better, though still imperfect, estimate of net institutional effects, than that yielded by simply adjusting for age alone.

Cross-sectional designs such as this have been employed in various attempts to separate college effects from those of maturation. It would also seem reasonable that such cross-sectional designs could be used in conjunction with pre-post longitudinal designs to provide a clearer picture of the influence of college versus the influence of maturation. Because the simple longitudinal results also include the possibility of maturational influences, they might be thought of as the upper-bounds or liberal estimate of the effect of college. Conversely, the adjusted cross-sectional results would tend to statistically remove any joint impacts of the college experience and normal student maturation; thus, providing a conservative or lower-bounds estimate of the effect of college. The difference between the longitudinal and adjusted cross-sectional results might be used as an estimate of normal maturation during college. (In the absence of longitudinal data one might use the adjusted differences between cross-sectional freshman and senior cohorts to represent the upper-bounds estimate of college effects, the age- and aptitude-adjusted differences to represent the lower-bounds estimate, and the difference between the unadjusted and adjusted results to represent normal maturation.)

Another cross-sectional design which has been used to disaggregate college effects from age or maturation effects is one which takes advantage of the increasing numbers of older, nontraditional-age students in American postsecondary institutions. In this design, traditional-age freshmen (age 18), nontraditional-age freshmen (age 22), traditional-age seniors (age 22) and nontraditional-age seniors (age 26) might all be administered the measure of critical thinking. The effects of college versus maturation would be estimated by comparing the freshman to senior differences for both traditional- and nontraditional-age students, with age differences between traditional- and nontraditional-age freshmen between traditional- and nontraditional-age seniors. Examples of this design have been used in estimating the effects of formal education on the development of reflective judgment by Strange (1978).

These alternative designs are not without flaws. Indeed, there are internal validity issues (i.e., what is the real cause of the effects observed) associated with both of them. As alternatives to simple pre- and post-assessments, however, they do provide somewhat greater control over the confounding influence of student maturation during college. Consequently, they probably provide more internally valid estimates of the value-added or net effects of educational experiences than do simple pre- to post-changes. In terms of contributing to the understanding of the value-added or net effects of educational experiences, pre- to post-changes in the absence of a control group are quite limited. One might conceive of them as a necessary but not sufficient condition for documenting educational impacts. In most instances, the presence of a net educational impact will be accompanied by positive pre- to post-changes on measures of interest. One must be a bit cautious in this regard, however. Recent evidence reported by Wolfle (1983), for example, has suggested that the general effect of college attendance on mathematics achievement is to maintain pre-college levels of competence. Net of other factors, those not attending college tend to decline in mathematic competence. Thus a college or educational impact may not always be accompanied by pre- to post-improvement, or even by pre- to post-change. Indeed, simply looking at pre- to post-improvement may, under certain circumstances, underestimate the true impact of college.

It is precisely in this type of situation that the term value-added can be misleading or even dysfunctional. As an estimate of college impact, value-added implies that something is added to the individual's level of development. In some areas of development, however, the impact of college (or other educational experiences) may be to prevent or retard decline rather than to induce major positive changes. Consequently approaches to value-added assessment which focus only on pre- to post-changes may be overlooking important college effects.

Direct and Indirect Impacts

It may be argued that value-added assessment is made increasingly effective and useful in terms of its policy implications as it becomes more specific and focused. At the individual college level, this suggests the importance of identifying specific institutional experiences which enhance student development. Assessments for this purpose are often more fine-grained in conceptualization and analysis than those which are limited to determining the net effect of college or some particular educational experience. At the multi-institutional level, we have some exemplary applications of this approach in the work of Astin (1968, 1977, 1982; Astin and

Panos, 1969) and Pace (1985). Generally this approach involves estimating the associations between various measures of the college experience (e.g., academic major, academic achievement, extracurricular involvement, interaction with faculty) and certain outcomes (e.g., standardized measures of achievement, graduate degree attainment, self-concept, values) with the confounding influence of student pre-college traits (e.g., aptitude, secondary school achievement, social origins) removed statistically. The result is an estimate of the effect of a particular collegiate experience independent of differences in student pre-college traits.

When multiple regression is employed to assess these partial associations between college experiences and college outcomes, the resultant regression coefficients can be interpreted as estimates of the net or direct influence of a particular variable (Wolfle, 1985). Thus, in addition to estimating the extent to which an institution facilitates the development of critical-thinking ability from freshman to senior year, a value-added approach might also attempt to identify those particular institutional experiences which have nontrivial net associations with critical thinking. The results of these and similar analyses can provide useful information in terms of focusing attention on those potentially manipulable collegiate experiences which may casually influence the development of critical thinking (e.g., particular courses or course-taking patterns, interaction with faculty). It is important to stress the "may" in the previous sentence since attributions of causality with correlational data are tenuous at best.

A related issue in assessment is the notion of indirect effects or influences. This comes under the general idea that you are probably doing more good than you think you are. It is often the case that specific college experiences, or even college itself, is shown to have little independent, direct influence on desired outcomes. However, it may be premature and misleading to conclude from such evidence that there is no impact due to college. The impact may be indirect rather than direct. This can be demonstrated from some of our own recent research. In a study conducted with Pat Terenzini and Lee Wolfle (Pascarella, Terenzini, & Wolfle, 1986), we considered the influence of a summer orientation program on freshman-year persistence. Our hypothesis was that such a program might enhance persistence indirectly rather than directly. We expected those who attended orientation to have higher levels of early social integration during the freshman year, which in turn we anticipated might positively influence commitment to the institution and, eventually, persistence.

That is generally what happened. When we controlled for background differences between those who attended and those who did not attend orientation, attendance versus nonattendance was found not to have a significant, direct influence on persistence. However, attending orientation did have a significant, positive indirect effect on persistence which was over three times as large as the direct effect. The indirect influence of orientation manifests itself through its positive influence on student social integration and institutional commitment, which in turn, positively influenced freshman-year persistence. Had we ignored these indirect effects we would have erroneously underestimated the value of orientation.

Such evidence suggests that certain institutional impacts may be of an indirect rather than a direct nature. These indirect impacts may take considerable time to manifest themselves, which suggests the potential importance of alumni or graduate surveys for assessing institutional impact. Often college has impacts which are not realized by graduates until some time considerably after they leave the institution. It is important to be sensitive to alumni and graduates as an important source of data concerning the long term effects of college or a particular institution.

Conditional Effects

Most attempts at value-added assessment at the institutional level assume that the impacts of educational experiences are general. That is, they assume that everybody benefits from the same experience in the same way. This assumption certainly has the appeal of parsimony (i.e., other things being equal, the simplest explanation is often the optimal one). It can be argued, however, that assuming only general effects in one's analytic or assessment model ignores individual differences among students attending the same institution or exposed to the same educational or instructional experience. These individual differences among students may interact with different instructional, curricular or other educational experiences to produce conditional rather than general effects. Thus, the magnitude of the influence of certain educational experiences on student development may vary for students with different characteristics (e.g., level of entering aptitude, degree of prior exposure to, or competence in, specific course content, level of intellectual orientation). Conditional relationships such as this might well be overlooked in assessment approaches which consider only general effects. In certain situations this may lead one to conclude that effects of specific educational experiences are trivial, when in fact they may have pronounced positive effects for certain subgroups of students. In my own research, for example, I have found that the effects of self-paced, mastery instruction on mathematics learning among freshmen has its greatest positive impact on the least well prepared students (Pascarella, 1978).

The idea of conditional effects may run somewhat counter to state-initiated mandates for accountability in which institutions are expected to demonstrate certain levels of effectiveness in promoting cognitive and other development for all students. Nevertheless, the consideration of conditional effects might well function to sharpen the focus of value-added assessment at the institutional level and enable it to better identify those particular students who are benefiting most or least from certain educational experiences. This information could then be used to focus institutional efforts on those student constituencies where its efforts appear to be least effective.

Qualitative/Naturalistic Approaches

Sometimes of late when I am computing what must be at least my 10,000th multiple regression equation, I have begun to wonder if I am really getting at the essence of college impact. I am beginning to think that what quantitative, logical positivists such as myself do best is to lay out a broad map of the territory. It may well be that in the next 20 years it will take qualitative or naturalistic inquires to fill in all the rich and important topographical detail, which is often missing in quantitative analyses. Qualitative or naturalistic approaches, which employ interviews and direct observation, may be an important new direction for understanding the ways in which college enhances student development. Such approaches are important in triangulating or verifying the results of more broad-based, traditional quantitative assessment; yet they may also be an important primary data source in their own right.

Existential Outcomes

Often assessment of outcomes is limited to what is posited as the "educational impacts" of college (e.g., critical thinking, content knowledge, personality and value changes). In doing so, the more existential outcomes are often ignored (e.g., how enjoyable and satisfying are the years spent in college). If one lives to be 72 and obtains a bachelor's degree, he or she will probably spend about 5 years more or less on a college campus. That is a considerable part of one's life, roughly 6-7 percent of it. This suggests that an important part of assessment in postsecondary education is the attempt to understand the quality of student life at one's institution. Do colleges and universities succeed in making the time spent on their campuses as enjoyable and productive as possible? While it is often overlooked in the concern for measuring "educational impacts," I would argue that the quality of campus life is a legitimate concern in assessing the benefits of college.

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MEASURING THE VALUE OF COLLEGE: PROSPECTS AND PROBLEMS

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There can be little doubt that "assessment" is here to stay. At least seven national reports have appeared in the last five years, all critical of higher education in America and all giving a central role to "assessment"--the measurement of the educational impact of an institution on its students. Eleven states have adopted formal assessment requirements (Ewell, 1987), as many more are moving in that direction, and regional accrediting associations are trying desperately to recover some of the accountability thunder they have lost to state governments.

The fact that the origins of the push toward assessment are external to most campuses is significant. Surveys indicate that while "over 50 percent of college administrators support assessing general education, . . . only 15 percent report doing anything about it. In the more complex area of 'value-added' assessment, some 65 percent support the concept but less than 10 percent are fielding value-added programs" (Ewell, 1987, p. 24). The clear implication of such figures is that for many colleges and universities, assessment is a relatively new undertaking: they are either just beginning to explore and implement assessment programs, or they have not yet even begun. In fact, most campuses have been engaged in assessment in a variety of areas. The difference is that these efforts have been undertaken unilaterally by various individual offices or groups, are not coordinated in any way, nor are they part of any overall institutional plan for on-going self-study.

The current assessment literature is replete with descriptions of the benefits of assessment to institutions and students. Those benefits are not trivial, but because they are detailed in lots of other places, they are only suggested here. One clear benefit of assessment is that it forces institutions to focus on students. For years, as Sandy Astin (1985) has pointed out, colleges and universities have equated institutional and programmatic quality with the resources invested in their institutions. The "best" colleges and universities are the ones who have students with higher aptitude and achievement scores, more books in the library, more faculty with terminal degrees, lower student-faculty ratios, and so on. It is well to move away from such measures.

A second benefit, related to the first, is that assessment requires the paying of attention to the outcomes of college, to what colleges are doing to and for students, not to the resources that colleges are generating or expending. Third, assessment attaches a high value to growth, to student progress toward some set of specified educational objectives. These are all substantial benefits, and if assessment is seen as merely one more external reporting obligation, a great opportunity to enhance educational programs will be missed.

But while advice on how assessment programs should be designed and implemented is easy to come by, the pitfalls of assessment are more obscure, typically treated only cursorily in the literature, if they are treated at all. This paper will call attention to some of those pitfalls and suggest, however briefly, how at least some of them might be avoided. It is NOT the intention to discourage institutions from developing assessment programs, but first, to identify some of the serious conceptual, measurement, organizational and political problems likely to be encountered in the process of designing and implementing an assessment program, and second, by identifying some of the pitfalls, to help people who are involved in assessment to do it well. To accomplish these purposes, three major areas will receive focus: (1) definitional issues; (2) organizational and implementational issues, and (3) methodological issues.

Definitional Issues

One of the most significant and imposing obstacles to the advancement of the assessment agenda is the absence of any consensus on precisely what assessment means. To some, the term means testing individual student achievement levels in various academic areas. To others, it means a review of the general education program and an evaluation of whether students are receiving a "liberal education." To still others, it means a series of alumni surveys designed for program evaluation and planning purposes. And for still others, it means nothing less than institution-wide self-study, applicable to teaching, research, service, and administrative and management functions.

In thinking about what assessment is, it is useful to keep two questions in mind, for the answers to those questions will have a powerful influence on the kind of assessment one becomes involved in and on the issues and problems one will face. The first question is: "What is the focus of the assessment?" This is the "purpose" question. Why is the assessment program being designed? What is it intended to do? At some risk of oversimplifying the matter, answers to this question generally fall into one (or both) of two categories: assessment for the enhancement of teaching and learning, or assessment for purposes of accountability to some external (or higher) body. In a sense, the answers to this question parallel the issues in formative and summative evaluation: the first is intended to inform change and guide program modification, while the second is to reach some final judgment about worth or value.

The second question is: "What is to be the unit or level of assessment?" Is the assessment to focus on individual students (as "individuals," not as elements in a group)? Or on groups, where "groups" can refer to aggregations of students at the course, program, department, college/school, campus, or system level? If these two questions (and the answers to them) are juxtaposed in a simple two-by-two matrix, it begins to become evident how varying forms of assessment can be categorized.

Approaches to assessment with a clear "accountability" orientation can be of two varieties. If the assessment is at the individual level, the assessment performs something of a "gatekeeping" function, sifting and sorting the qualified from the unqualified. Assessment activities within this category include such practices as admissions testing (e.g., ACT, SAT, and others) and "rising junior" examinations employed in Florida, Georgia, New Jersey and elsewhere. Other varieties of the accountability-oriented, gatekeeping conception of assessment include comprehensive examinations in the students academic major field (a practice enjoying a revival) and certification examinations in professional fields (e.g., nursing).

These latter sorts of examinations may also serve assessment purposes at the group level, however, where the interest is in group means rather than individual scores. At this intersection of the focus and level issues, the principal interest in assessment is for program enhancement, to determine the level of effectiveness or quality at which a program, department, school or entire campus is functioning. Assessment activities in this cell include academic program reviews, analysis of student attrition rates and reasons, alumni follow-up studies, and "value-added" assessment programs. The focus or purpose is primarily evaluative, and the information so obtained may be used both for accounting to external bodies and for internal program improvement and planning. When used for program enhancement, these activities slide from the "accountability" side of the matrix to the "learning" side. (Just remember: in assessment, very few things are clear cut!)

When the "focus of assessment" is on learning, and when assessment is at the individual student level, some would assert that as dealing with assessment in its purest form. In this approach, most notably practiced at Alverno College, analysis of individual student performance is seen as an integral part of the teaching and learning process. Teachers use such information on student knowledge and skill mastery not only to guide individual student learning, but also to shape their teaching strategies and styles so as to maximize the learning potential of their classes and assignments. Feedback is fundamental. Indeed, without it, learning-oriented assessment is meaningless.

Some other standard assessment practices also fall in this category, however. For example, placement examinations and other diagnostic measures intended to identify learning readiness and permit assignment of the student to the most beneficial learning sequence clearly have both an individual student and learning orientation.

In addition to understanding why the wish to assess something, it is equally critical to be clear about what a college is interested in assessing. Several "outcomes" taxonomies have been suggested (e.g., Bowen, 1977; Pace, 1979; Lenning, 1979). A simple yet useful general typology has been given by Ewell (1984), who suggests four basic dimensions of outcomes: (1) knowledge outcomes; (2) skills outcomes; (3) attitudes and values outcomes; and (4) behavioral outcomes, particularly behaviors related to occupations, post-baccalaureate educational activities, and professional and community activities. An institution must, of course, decide for itself which of these dimensions, or even subsets within these major categories, should receive primary attention.

The point of all this is the importance of being absolutely clear, on a more-or-less campuswide basis, about what the assessment program is intended to accomplish. Time spent in committee work and other forms of public discussion of the purposes and objects of assessment on a campus will be time extremely well spent. An inadequate programmatic and political foundation for the assessment program will produce confusion, anxiety, and more heat than light.

Organizational and Implementational Issues

Assuming some reasonable level of agreement is reached on the purposes and objects of assessment, it is important to keep always in mind that institutional change is embedded in any conception of assessment. Depending upon where the changes occur, and how they are managed, they can produce higher levels of individual and organizational performance and pride in accomplishment, or they can produce internal insurrection. Institutional researchers and others must understand and appreciate that several significant organizational and implementational hazards must be addressed at the outset.

A vital and difficult area involves mobilizing support. The endorsement and visible support of senior executive officers (including the president) is absolutely necessary, but, unfortunately, not sufficient. Faculty support is also needed, and without it prospects for a successful assessment program are dim. According to Ewell (1984), faculty objections are likely to come from either or both of two sources: first, the fear of being negatively evaluated, and second, a philosophical opposition based on the belief that the outcomes of college are inherently unmeasurable and that the evidence from such studies is "misleading, oversimplifying, or inaccurate" (p. 73).

If sufficient attention has been given to public discussion and review of the program's purposes and objects, much will already have been done to allay faculty fears. Assessment--even when required by an external body--must be, and be seen by all as, a vehicle of individual and institutional improvement, not a search for documentation on which to dismiss individuals or retrench programs. Some basic level of trust must be established.

Ewell (1988) recommends being publicly clear about what an assessment program is not intended to do. This would include clear specification of what data are to be collected, by whom, for what purposes, the conditions under which the data will be made available, and to whom they will be available. Northeast Missouri State University (1984), which has had extensive experience with assessment, recommends that assessment data not be used to support negative decisions.

Faculty reservations about the measurability of outcomes must also be addressed, and several approaches are possible. One is to acknowledge publicly the inadequacy of any single outcomes measure and to ensure that multiple measures are incorporated into one's assessment program (Ewell, 1984). It must be remembered that judgments of program and institutional quality are made all the time, by a lot of different people. The issue is not really whether assessments should be made, but the nature and sources of the evidence to be used to make those judgments.

Another useful suggestion is to involve faculty members in the design of the assessment process (Ewell, 1984). Indeed, faculty members on most campuses constitute a significant, untapped source of technical, as well as political, support for an assessment effort. Similarly, it is useful and wise to distinguish between "analysis" and "interpretation" of assessment results (Northeast Missouri State University, 1984). Analysis involves a series of technical activities, best performed by analytically competent persons. Interpretation, however, involves judgments about meaning and should involve broad participation, particularly by those most directly affected. Persons involved in the interpretation of results and decisions about alternative courses of action are far more likely to support those actions than are persons excluded from the interpretation and recommendation process.

Finally, assessment programs that start small, perhaps on a pilot basis, are more likely to draw support than grand efforts with considerable apparent potential for campuswide disruption. Most successful programs began small and grew incrementally (Ewell, 1988). Northeast Missouri State University, for example, began its assessment efforts in 1973. And an inventory of current data collection activities (including the use of standardized measures, program review results, surveys, and standard institutional research studies) is likely to reveal greater current involvement in assessment than might at first have been believed.

In short, one cannot overstate the importance of laying a strong political foundation. Without it, the structure cannot stand. And it is well to keep in mind that some of the most important benefits of assessment come from the process of self-analysis, not just from the results.

A second major issue concerns coordination. Assessment requires the involvement of a wide variety of people and offices, crossing not only academic departmental lines, but vice presidential areas as well. Alternative approaches to the campuswide coordination problem have included assignment of coordinating responsibility to a currently existing office already significantly engaged in assessment (and controlling many of the necessary resources), creation of a new office, or assignment to a committee with representatives from the major affected organizational areas (Ewell, 1988). Each of these approaches, of course, has its assets and liabilities, and while space will not permit a detailed discussion of each, the reporting line(s) for the office or group should be given careful attention. Whatever approach is adopted, what will be the likely effects on traditional areas of responsibility and lines of authority? On informal power networks? On traditional distinctions between academic and student affairs? Ways will have to be found to coordinate activities such that lines of authority and responsibility are clear, existing functions and activities are not duplicated, and support is received from each area. Experience indicates that the support of the institution's top executives, particularly the president and academic vice president, must be active and visible, particularly in the early stages of the program's development (Ewell, 1988).

Finally, one cannot ignore the costs of assessing educational outcomes. Assessment costs are little understood, and it is precisely because of ignorance in this area that it constitutes such a potential threat to the success of any campus-based program, as well as the general national trend toward assessment. Much has been written about the "benefits" side of the cost-benefit equation, but only recently has attention been turned to the cost side. How much should an institution invest in its assessment program? The question is unanswerable, of course, in the absence of considerable knowledge about purposes, activities and areas of assessment. But Ewell and Jones (1986) have argued that the real question is one of marginal costs: "How much more money (beyond that already committed to outcomes-related information gathering) do we have to spend to put in place an assessment program that is appropriate to our needs?" (p. 34). These costs are incurred in four areas: (1) instrument costs, (2) administration costs, (3) analysis costs, and (4) coordination costs (Ewell & Jones, 1986). After making a series of assumptions about the nature of the assessment program likely to be mounted by institutions of varying types and sizes, Ewell and Jones (1986) estimate incremental costs ranging from $30,000 (in a small, private, liberal arts college) to $130,000 (in a major public research university). It is important to bear in mind that these are incremental costs, to be added to already-existing data gathering and analysis costs. Moreover, they do not include personnel costs associated with faculty involvement in assessment. And if one assumes an on-going assessment program (which is strongly recommended), the Ewell and Jones' estimates are also annual incremental costs.

Finally, opportunity costs must also be considered. Institutional resources (including time) invested in assessment are not available for investment elsewhere. Moreover, Governor Kean (1987) of New Jersey has urged institutions not to ask for additional funds to cover assessment costs. He does not believe legislatures will respond favorably to requests for money to determine whether past and current appropriations are being effectively utilized. If that is true, reallocation of currently appropriated funds will be necessary.

Methodological Issues

The third category of potential pitfalls is methodological. Some are specific to particular approaches to assessment; others are merely common and frequent violations of the canons of good research. Within this general area, problems fall into three sub-categories: (1) design problems, (2) measurement difficulties and (3) statistical hazards.

Design Problems: One of the dominant themes in the calls to assess the educational outcomes of college, and the primary thrust of the demands for "accountability" through assessment, is the need to demonstrate that college makes a difference, that colleges are in fact delivering on the claims that fill admissions materials about the benefits of college attendance, that students leave colleges and universities with knowledge, skills, attitudes and values they did not have when they arrived.

The fact that students change in a variety of ways between their freshman and senior years has been demonstrated in an impressive number of studies (e.g., Bowen, 1977; Pace, 1979). The design problem lies in determining the origins of those changes, which may also be due to the pre-college characteristics of students, or to growth processes and experiences that are quite independent of college. Thus, collegiate impact is only one of the possible sources of freshman-senior year change. It may be a significant source of change, but knowing with any degree of certainty whether and to what extent college has an effect is a very complicated matter.

A common approach to the assessment of change in students is the use of successive cross-sections designs. Typically, cross-sectional samples of current freshman and senior students are taken and the two groups are compared on some measure of the variable on which change is being studied. Such designs, however, assume that current seniors, at the time they matriculated, were similar in important respects to current freshmen--a questionable proposition. Such designs also leave selective dropout during the college years uncontrolled. Not all students who begin college will finish it. In such a circumstance, freshman and senior group means would be different, even if the two groups had been identical at the time they both entered school--also a doubtful proposition.

Longitudinal designs are a frequently recommended alternative. At least some of the same people are being studied at the two different times, but note the emphasis on the word "some." Subject mortality (the tendency of subjects to drop out of a study over time) can be a significant problem with longitudinal research, particularly those that cover an extended period, like four years. As response rates drop, study generalizability is threatened.

Moreover, because of this subject mortality problem, longitudinal designs require larger samples, which increase costs and data management requirements. It is important to keep in mind that research design is a series of compromises. Designs that increase the power of a study in one area almost invariably come at a cost somewhere else in the study. Whenever something is gained, something else is given away. The point is to know what is being gained, and what is being given away (see Terenzini, 1980).

Most assessment studies are, of necessity, single-institution studies, and even when based on longitudinal designs, there are important constraints on what they can and cannot do. In the zeal to demonstrate the beneficial effects of attending a college or university, other powerful forces that influence students during the college years are easily forgotten, normal maturation probably being the most significant one. In single-institution designs, it is just not possible to separate the effects of college from those of maturation. Instrument decay and regression effects (the tendency for the scores of persons with very high or very low initial scores to move toward the mean on retesting) may also be involved, but maturation is the most likely alternative to college impact as an explanation for change observed in college students. Pascarella (1987) has suggested several useful ways to deal with this problem.

In developing a sample plan, it is absolutely crucial to have clearly in mind the kinds of sub-group analyses that one might wish to conduct. As the number of groups grows large, or as one or more of the subgroups comprise a small population (e.g., minority students), simple random sampling plans are likely to be inappropriate.

It has been frequently recommended, for example, that successful assessment programs provide unit-specific information. It is easy for deans or department heads to disregard assessment information when it is not specific to their college, school or department. The implication of this advice, however, often overlooked until it is too late, is that a census, not a sample, of students must be taken. Otherwise, group sizes may be too small to have face validity, political believability, or statistical stability. Costs and workload will go up accordingly.

Measurement Problems: When discussing "measurement," the issues are reliability and validity, questions that are always at issue in the selection of an instrument. The common dilemma, of course, is whether to adopt a commercially-available measure (e.g., the ACT's COMP, or measures now available through ETS's Program Self-Assessment Service), or to devise an instrument locally. As noted previously, research is one compromise after another. Adoption of a nationally-available measure has several advantages. First, it was developed by experts in measurement. Second, it has been field-tested and its psychometric properties are known. Third, national scores or norms are probably available so one can compare one's own institution with others of similar size, type and purpose. Finally, they can save substantial amounts of time and expense that would otherwise go into local instrument development.

Such advantages come at a cost, however. Commercial measures, in order to be useable in a variety of settings and for a variety of purposes, are necessarily general and lack the specificity needed to focus in any detail on local conditions. Similarly, standardized achievement measures must necessarily focus on a limited number of learning objectives which may or may not be the ones a campus has set for its students. While locally developed measures may be more carefully tailored to local purposes, they are also likely to be untested (at least in the short run) and, consequently, of unknown reliability and validity. Moreover, construction of instruments is not an activity for novices.

Validity can also be increased through the use of multiple measures. Do not rely on single measures or types of measures (e.g., surveys, or objective tests). Unobtrusive measures, ones which do not intrude on the subjects' awareness of being studied, can be highly useful (see Terenzini, 1987).

One of the most commonly used measures in assessment programs is the College Outcome Measures Project (COMP) examination of the American College Testing Program (ACT), one of the few commercially-available measures of knowledge and skills presumably imparted by a general education program. In assessing the effects of such programs, most institutions are unable or unwilling to wait two to four years in order to follow a cohort of entering freshmen through to their senior year, as would be necessary in a longitudinal research design. ACT has responded by providing an estimate of student gain in the COMP total score (Banta, Lambert, Pike, Schmidhammer, & Schneider, 1987). Based on a comparison of the COMP and ACT Assessment Composite scores of students who have taken both tests, ACT has developed concordance tables which permit institutions to "estimate . . . the (COMP) score gain, or value-added" (Banta, et al., 1987, p. 3).

Banta and her colleagues (1987) have conducted a series of tests on these estimated gain scores, and their findings are noteworthy, not to say astounding. Among them are the following:

1. Because of the large standard deviation of the estimated gain, "in a given year the level of estimated gain for (University of Tennessee–Knoxville students) could be in error by as much as 20 percent."

2. The regression equations upon which the concordance tables are based differ significantly from year to year, and estimated gains for UTK students were underestimated by as much as 60 percent!

3. Estimated gain scores are change scores, and they are notoriously unreliable. Indeed, Banta and colleagues concluded: "the level of dependability of estimated gain is simply too low to serve as the basis for making decisions about program quality or the allocation of resources" (Banta, et al., 1987, p. 10).

4. A large number of graduating seniors had no ACT Assessment Composite score from which a COMP estimated gain score could be calculated. Those without Assessment scores tended to be older, black, and from lower socioeconomic families, raising serious questions about the generalizability of any study based on estimated gain scores.

5. Finally, the correlations between all estimated gain scores and certain demographic and institutional variables were the opposite of what was expected. For example, the greatest gain scores tended to be those of students who had high school averages lower than 3.0, did not receive a scholarship, whose fathers did not graduate from college, who did not participate in honors math sections, and who did not take more than two math courses (Banta, et al., 1987, p. 15).

Clearly, these results raise serious questions about the reliability and validity of all estimated gain scores, not just those produced using the ACT's COMP and Assessment instruments. Indeed, Banta and her colleagues are quick to praise COMP as a "valuable tool for stimulating faculty discussion about the general education curriculum, and modes of instructions. . . What is called into question is the usefulness, the validity, of employing estimated student score gain on the COMP for the purpose of making precise judgments about program quality that can serve as the basis for decisions about the allocation of resources in higher education" (p. 18).

One might infer from this that the use of actual gain scores is a way of circumventing the problems Banta and her colleagues identified in estimated gain scores. However, even actual gain scores must be used prudently.

Statistical Problems: As noted previously, assessment, particularly the accountability strain, has embedded in it the expectation that change will occur, that the institution's contribution to student learning can be made apparent, even measured with some precision. Unfortunately, almost without exception, researchers rely on average changes, or a comparison of a group mean at Time1 with the same group's mean at Time2. But group change often masks individual change. Any observed freshman-senior change is related to the number of students who change and to the amount of change each student experiences. It may be useful to give attention to the frequency, direction and magnitude of individual change (see Feldman & Newcomb, 1969, pp. 52-69).

Moreover, change is often construed as value-added, a frequently heard phrase that can be terribly misleading and damaging if not understood. Warren (1984) and Pascarella (1987) offer thoughtful and detailed discussions of this concept, but certain aspects of it require attention here.

Value-added is both a metaphor and a research design. As a metaphor, it is highly vivid and useful in focusing attention on institutional effects, rather than on institutional resources. "Quality" is seen as a function of what is "produced," not of the number of volumes in the library, percentage of faculty with the terminal degree, student-faculty ratios, instructional expenses per student, and so on. Unfortunately, it can sometimes be too vivid, leading people inside and outside the academy to expect more of assessment programs than can possibly be delivered.

The reason for this lies not only in the metaphor's assumption of the occurrence of "change," but also in its assumption of positive change or growth. Can "value" be "added" without positive change? Legislators and others are likely to say "No." And therein lies the perniciousness of the metaphor, for it is important to distinguish "change" from collegiate "impact." As Pascarella (1987) notes: "In some areas of development . . . the impact of college (or other educational experiences) may be to prevent or retard decline rather than to induce major positive changes. Consequently, approaches to value-added assessment which focus only on pre- to post-changes may be overlooking important college effects" (p. 78).

The value-added metaphor also promotes a research and analytical design that is correspondingly simple and equally pernicious. To know whether something changed, measure it at Time1 and again at Time2.

The difference between them, the change score, reflects the institutional value-added. Right? Wrong! The interpretive problems when maturation effects remain uncontrolled have been discussed earlier. But reliance on a simple difference score has other problems. Difference scores are known to be notoriously unreliable. Indeed, they have some positively alarming characteristics. For example, it can be shown that difference scores are negatively correlated with pretest scores (Bereiter, 1963; Linn & Slinde, 1977). This negative relation lies behind the counterintuitive, even bizarre, findings reported by Banta and her colleagues (Banta, et al., 1987).

Second, it can also be shown that the higher the correlation between pre- and post-test measures, the lower the reliability of the gain score (Linn & Slinde, 1977), making detection of reliable associations with other variables (e.g., aspects of the institutional experience thought to produce a portion of the change) more difficult.

Third, simple difference scores are also subject to ceiling effects: students with high pretest scores have little room for improvement and, thus, are likely to show smaller "gain" scores than students with lower initial scores. Similarly, gain scores are subject to regression effects, the tendency--due strictly to measurement error--for initially high (or low) scores to move ("regress") toward the group mean upon subsequent testing.

Thus, in considering the use of the value-added metaphor in a specific measurement setting, we would be well advised to follow the suggestion of Cronbach and Furby (1970) to "investigators who ask questions regarding gain scores." That advice is to ". . . frame (our) questions in other ways" (p. 80). Linn and Slinde (1977) and Pascarella (1987) suggest a number of those ways, although we cannot review them here. But there should be some comfort in the knowledge that it is possible to assess institutional impact in ways that are conceptually understandable and methodologically preferable to the use of simple difference scores.

Conclusion

The assessment of student outcomes is a complicated business. Most really important things usually are. Do not let the complexity deter the effort. Both the processes and products of assessment have much to offer colleges and universities. Indeed, in many respects, assessment is a practice colleges and universities should have been doing all along. Product evaluation is really just part of good management. At the same time, however, assessment is not something that can be done quickly or casually. It is complicated enough without having a number of serious conceptual, administrative, political and methodological briar patches along its path.

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INSTITUTIONAL EFFECTIVENESS

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In about the first or second session of any course on management or administration, the instructor introduces the topic of scientific management and the name Frederick Taylor. Taylor's approach led to the belief that operations research and systems management could improve decision making, aid in the management process, and thereby improve institutional effectiveness (Woolf, 1965).

Following World War II the so-called GI Bill encouraged service men and women to return to colleges and universities. A baby-boom of that era soon sparked higher enrollments in the 1960s. In addition, increasing numbers of youth and their parents believed that a college education would be useful and made financial sacrifices in order to obtain it. Nationally, total enrollments in postsecondary education soared over 430 percent from 1950 to 1980 (Center for Statistics, 1985-86, 1970). How these national numbers translate into those for one land-grant university (Virginia Polytechnic Institute and State University) are described in Table 1.

Table 1. Enrollment Increases in Postsecondary Education

	NATIONAL		LAND-GRANT	
Year	Number	Percent	Number	Percent
1950	2,281,298		3,781	
1960	3,582,726	57	5,106	35
1970	8,580,887	140	12,043	136
1980	12,096,695	41	21,069	75

Such enrollment figures suggest that colleges and universities that wanted to grow and had sufficient drive by management and faculty could do so. Moreover, such growth might be quite rapid and challenges existing managers to adapt to changing times. Many existing institutions doubled and then again doubled in size; new colleges sprang to life. The community college sector dramatically increased opportunities for those who had not considered college or who wanted an alternative to the usual collegiate format. In the community college, all students went through the same front door--some turning to the right for a vocational-technical course and others to the left for a more traditional academic and collegiate course; all of them could claim the same college, and their diplomas looked remarkably alike.

Turning to economic theory, economies of scale state that as production increases, average overhead could be reduced and, therefore, more profit made. Seen in the collegiate light, a college could double student enrollment with an increase from 200 to 400, and add only faculty members and perhaps a department head. What would happen, however, if enrollment doubled from 1,000 to 2,000 students? Could the college keep the same administrative structure and add about 66 new faculty members? Maybe, but the answer becomes harder to predict. Could a college increase from 5,000 to 10,000 students and add only faculty? No! Research has revealed that as institutions grew economies of scale were overpowered by increasing complexity. New faculty members wanted to teach material studied in graduate school, and new courses were added; new specialities proliferated in the computer and space age through which the nation was passing; research organizations sprang into life; it became necessary to add new departments, then new deans or faculties, and then a vice president for academic affairs or provost and several assistants and associates to oversee the complexity developing. Large institutions could benefit from economies of scale only to a point, for complexity more than offset it (McLaughlin, Montgomery, Smith, Mahan, & Broomall, 1980).

Institutional Research

Against the backdrop of scientific management, increasing enrollments, and complexity, college administrators needed more information for decision making and new tools to use in administration. Among the pioneers in bringing new techniques to postsecondary education were two who made a difference. John Dale Russell (Russell & Doi, 1955, 1957) collected information on statewide systems, for example higher education in Virginia or Michigan, and on how to derive usable figures to review institutional expenditures or space needs on a college campus (highly useful information with the construction projects needed to keep pace with enrollment). A.J. Brumbaugh (1960) wrote a small booklet that the American Council on Education (ACE) distributed widely. He argued that colleges and universities could improve management by adding staff to collect and analyze data for management decision making. The publication had an unusually high impact on colleges and universities. Thus, Russell and Brumbaugh urged management to use more data and better organized information in decision making. Scientific management had found allies and would thereafter be pressed forward on many college campuses.

With the urging and encouragement of the ACE, Southern Regional Education Board, Southern Association of Colleges and Schools (SACS), Western Interstate Commission for Higher Education, and other organizations, the field of institutional research was launched. It was then, and is today, nothing more complicated than studying an institution to see how it works and providing information that might prove useful to improve or change the direction of management.

At about the same time that institutional research was developing, or shortly thereafter, many institutions added a planning function to help guide institutional development. In addition, in the 1960s the small trickle of data from the oversized and inefficient computers soon became a raging torrent as increasingly sophisticated computers poured out data for management to decipher.

Scientific management as applied to the college campus did not go as far as that used in the corporate model, and it never was called by such a title. But scientific management had nevertheless permeated the postsecondary environment, and it became a factor in institutional effectiveness.

Reputational Studies

What makes an educational institution good, or outstanding? Students who graduate should have acquired a depth of knowledge in a field; they should be competent. But words like competent, depth, good, and outstanding have varying interpretations. Therefore, how to evaluate effectiveness, what to evaluate, and what constitutes good or outstanding, remain issues of concern for colleges and universities. In the United

States, wide agreement exists that Harvard or the University of California at Berkeley are outstanding universities; however, in the United States there are over 3,300 other colleges and universities, many of which perform competently an educational mission. Will the farm boy or girl really receive from Harvard a better education for future life on the farm than at a land-grant college? Will the urban youngster working in the daytime and studying at night really be better served by a resident college than by the nearby urban college that opens its doors every night and on the weekends? The answer to both questions is no, and that an institution, by virtue of different missions and resources, can make an impact in its chosen arena. An institution should be evaluated in light of those differing missions and resources.

A favorite evaluative procedure has been to use peer evaluations of institutions or disciplines (departments) within an institution. These reputational studies have appeared at varying intervals since 1924. Perhaps the best known were two conducted under the auspices of the ACE in 1966 and again in 1970. Called the Cartter and Roose study and the Anderson study, the findings contain comparative listings of disciplines in slightly over a hundred major research universities. These studies sought to compare the institutions on faculty quality and effectiveness of programs (Conrad & Blackburn, 1985). The reputational study may feed the vanity of faculty or students in disciplines identified; it does little, however, to improve a program or to suggest shortcomings in disciplines or programs not named or selected in such a listing.

Accrediting

Voluntary accrediting arrived in the U.S. in the late 1890s and early 1900s. Colleges and universities joined in regional associations to strive for self-regulation and self-assessment. The associations encourage self-assessment and use peer review to obtain compliance with published standards (or criteria). While their published standards vary somewhat, all six regional accrediting agencies have requirements relating to institutional purpose and objective, organization and administration, financial resources, physical plant, library and learning resources, student services, faculty, and educational programs (Kells, 1981).

The SACS has pressed two innovative programs in accrediting its institutions. Both ideas pertain to improved operation of institutions, that is institutional effectiveness.

One idea, the self-study, started around 1960. In a self-study, an institution spends about 18 months reviewing its mission and its operations (e.g., as related to faculty, educational programs, library). Typically, committees review areas that may pertain to the total institution, then college and department committees review issues of concern to them. From these committees emerge recommendations that can serve as a long-range plan for an institution. At the conclusion of a self-study, a visiting committee of faculty and administrators from other institutions reviews the self-study, evaluates how well the institution has met the standards (criteria), and makes recommendations for the future. Since recommendations of the visiting committee require a response (or the institution faces a reprimand or even loss of accreditation), the institution involved does give attention to these recommendations. With an institution reviewing its mission and programs and formulating directions for the future, planning and evaluation does take place. The key to a successful self-study is sufficient attention from top management to assure that resources and talent are identified to take part in the process, then sufficient attention by top and middle management and faculty to review recommendations and take steps to place them in operation (whenever feasible).

Does self-study work? It depends on leadership, but a better ongoing mechanism to obtain orderly change has not been found. When budget cuts force radical reductions the mechanism may be effective, but disruption typically occurs.

The second innovation by the SACS (1986) is a new criterion that is required for accreditation. Called "Institutional Effectiveness," this criterion calls for planning, evaluation, and provision for institutional research. The criterion is designed to encourage self-assessment by requiring planning and evaluation.

The criterion mandates that an institution "establish adequate procedures for planning . . ." (SACS, 1986). This requirement caused a collective tremor to run through southern institutions; planning occurs, but documentation and tying it to mission and goals or otherwise having it formalized are frequently fragmented. At times procedures for planning exist but fall into disuse; at other times plans exist but appear unrelated to operations. The criterion also calls for evaluation. "The institution must define its expected educational results and describe how the achievement of these results will be ascertained" (SACS, 1986). These requirements should include: a clearly defined purpose appropriate to collegiate education, formulation of educational goals consistent with the institution's purpose, development of procedures for evaluations of the extent to which these educational goals are being achieved, and use of the results of these evaluations to improve institutional effectiveness (SACS, 1986). It is also expected that "institutions should ascertain periodically the change in the academic achievement of their students" (SACS, 1986).

Criteria for Accreditation, Section III, also mentions institutional research. Perhaps three sentences suffice to illustrate the point.

> Because institutional research can provide significant information on all phases of a college or university program, it is an essential element in planning and evaluating the institution's success in carrying out its purpose. Institutions should assign administrative responsibility for carrying out institutional research. Institutional research should be allocated adequate resources, and those responsible for it should be given access to all relevant information (SACS, 1986).

In the early days of self-studies, institutions typically engaged in 18 to 24 months of frantic activity in preparation for them; the other 8 or 8 1/2 years focused on other activity. It is no longer clear that such lapses are possible; planning and its evaluation and assessment of "academic achievement" appear to be ongoing operations subject to continuing activity and review.

With such encouragement to management and institutional research, it should come as no surprise that the 1987 conference of the Southern Association for Institutional Research attracted a record of nearly 300 attendees; in the same year the international forum of the Association for Institutional Research attracted about 800. In contrast to a few years ago, scarcely a week passes without an advertisement in *The Chronicle of Higher Education* calling attention to a new opening or a vacancy in the field of institutional research.

Evaluations

In addition to new requirements for self-studies, many managers also face the challenge of evaluation or assessment. Evaluation has received new emphasis by state legislators and state educational agencies either pressing for or requiring some form of evaluation. As a consequence, assessment has become the shibboleth of contemporary higher education in the United States.

Assessment combines the testing of knowledge with the application or the using of that knowledge (Edgerton, 1986). (For example, combining knowledge about a computer or the theory of programming with actually writing a Fortran program and getting it to work.) In a recent book, A.W. (Sandy) Astin (1985) has focused on educational excellence; ways to measure excellence remain murky at best.

Evaluations are a part of all institutions. The total institution can be evaluated, as in a self-study; a student can be evaluated, as in a grade for completion of a course or by virtue of receiving a degree that signifies achievement of mastery of some body of knowledge. Many possibilities exist for such evaluations.

External evaluations occur as other administrators, faculty or consultants provide some form of evaluation on an institution or program; a self-study combines both internal and external review; internal review may be conducted at any level within the institution (department, program, college, etc.). Many reviews can be made relatively inexpensively, but most evaluations carry some resource requirements. In looking into an institution, it is possible to distinguish between input measures (a traditional emphasis) and outcome measures (now receiving much attention in the U.S.). The distinction between these measures is important, for it determines, in part, how an institution will look at itself.

The following are items that should be considered in the review process:

1. Information on the operation of an institution (In these comparisons, we look at an institution over time in relation to itself or to its peers [these are typical "input" measures].) (Items A-C from Astin, 1985, pp. 37-39):

a. Amount of endowment
b. Expenditures per student
c. Student to faculty ratio
d. Average class size
e. Faculty salaries
f. Library holdings
g. Physical plant size and value
h. Financial value of research grants and contracts
i. Test scores or high school grade average or rank of freshmen

2. Information on outcomes or success of students (Items A-C from Astin, 1985, pp. 43-44):

a. Students in Student Who's Who; alumni in Who's Who type listings
b. Entrants in graduate or professional school
c. Success of graduates
d. Alumni satisfaction with educational experience
e. Licensing exam scores
f. Job placement rates/quality
g. Employer satisfaction with graduates hired
h. Reports from accrediting agencies
i. Exit interviews of graduating seniors
j. Grades of students (or grades given within a department or program)

3. Information on change in students (Astin [1985] calls this talent development):

a. Value-added--given what student knew at entry level, what does he know at graduation
b. Competency testing--a check to ensure students have mastered a subject area (e.g., an examination between the second and third years to ensure ability to write a theme)
c. Attitude changes
d. Related conceptual skills (e.g., ability to reason, to listen, to solve problems).

Improving Institutional Effectiveness

Management has sought to improve its operation by adding institutional research and planning functions. Whether the addition came from internal or external forces does not matter. Management needs such resources to respond to a need for information, for planning, for the evaluation of such planning, and for the assessment of academic achievement.

The first essential element to improve institutional effectiveness is to ensure that the staff has basic skills or knows how to respond to the needs of management. Whether the staff handling planning, assessment, and institutional study receives the title institutional research or not is immaterial. The key element is that personnel to perform such a function (by some name) be in place. Many managers, however, are turning to institutional research as a means to have sufficient person-power to accomplish planning and operations-research-type activities.

The next step is to get in place a planning process that moves the entire institution in the same general direction. That is easier said than done, for it is necessary to balance the ability to move quickly in an arena where little or no planning has occurred and the long-term plodding necessary to pursue a goal or objective that remains slightly beyond an outstretched grasp (e.g., better salaries for faculty).

Planning and the assessment of outcomes have become key factors in institutional health. Institutional planning requires a mission statement, that is the expectations of the institution, and long- and short-term directions for achieving these expectations. Usually planning, when effective, has relevance to financial resources and day-to-day operations. As previously noted, however, institutions typically have few if any plans for mission statements in place. Planning should provide the institution with a "systematic process" and "objective results" (Fincher, 1987). Several planning models exist. The institution will need to adapt any one selected to its milieu and the personalities involved.

It is easy to become lost in the planning process when moving from a lofty mission and purpose statement and institutional goals to the directions an institution or a department should follow in a one to three year period. Regardless of the number of people who may be involved in the planning process, the outcome can always be subjected to second guessing and criticized by those who did not have a direct input on the direction selected for implementation.

Tying the broad mission statement or institutional goal back into a department direction is both possible and useful. Table 2 is an example of such an effort and can be applied at any level in the institution. The process from purpose to assessment to purpose can be diagrammed as in Table 3.

The missing ingredient in most planning is that of assessing "objective results." The evaluation of planning frequently is subjective in nature. The problem is not so much the manner of its evaluation as the lack thereof. The field awaits ambitious researchers to help direct our practices and techniques in the evaluation arena (Hipps, 1982).

The key point, however, is that an effective institution has a planning process in place. When it is there, it is evident.

Table 2. Overall Mission to Unit Level

Institutional Statement	"Promoting personal and intellectual development"
Department Statement No. 1	Students will be able to write a theme paper
Assessment of No. 1	Each student, prior to senior (or 4th) year, will write an acceptable theme
Department Statement No. 2	Students will critique an essay for grammar, spelling, and punctuation
Assessment of No. 2	Each student will identify 80 percent of the errors

The assessment of student achievement can be pursued in many ways. While the output measures as demonstrated by Northwest Missouri, University of Tennessee, or Alverno College provide examples, other means and measures are possible. Many institutions have these already in place--it is a question of using the results of them. Here are examples:

1. In the South, almost all colleges survey faculty and students as part of a self-study. Such surveys can be expanded and the results more fully used.

2. Alumni surveys can be used to critique programs and review progress of graduates.

3. Grading patterns of departments are available, as well as data on freshmen and transfers.

4. An exit survey of graduating seniors can be used to give a quick response to faculties, departments, or colleges.

5. Employers can be surveyed to obtain ideas on graduates and their preparation for the work place.

Table 3. Relationship of Planning and Evaluation

Statement of Institutional Purpose
Goals or Objectives or Directions (Inst.)
Implement Operational Plans
Evaluate Achievement
Feedback of Results
Use of Results
Make Adjustments

Only a lack of resources and imagination limits the type of measures that can be used to review effectiveness. The idea is to collect indicators that can be used to point to the overall health of an institution, program, department, and so forth. An effort is needed to avoid being caught up in a new testing procedure or some program just because another institution has adopted it. What is needed is a sober review of what the institution wants to do and then look for the indicators that will tell how that program is going.

A key point to remember, however, is that evaluations and the indicators that are used to obtain them are usually designed to bring change. The further removed the person or department or institution is from the evaluation and its results, the more difficult it will be to bring change. When Virginia Tech recently developed a plan for assessment of undergraduate academic achievement, the primary part of the plan looked to the department to develop evaluative procedures, the idea being that the farther faculty are removed from assessment of academic achievement the less likely for any change to occur.

In addition to the evaluation of instruction or student achievement, another form of evaluation for institutional effectiveness examines a department. Many institutions routinely bring in outside experts (from other parts of the institution or from other institutions) to review the performance of academic departments. Much less likely to occur are reviews of nonacademic departments or offices. Those operations, which supposedly support the academic mission and assist management, may harbor conspicuous cesspools of poor administrative practices.

Examples of formal evaluations of senior administrators are hard to find. For the most part, such evaluations are haphazard or altogether absent. Yet, what better way to change or improve institutional effectiveness than by helping managers to improve themselves?

Summary

What is institutional effectiveness? It is effective instruction for students, good nonclass educational opportunities, good use of resources, effective management. In short, it is the ability to cause an institution to perform its mission effectively. Managers and faculty members continually seek that condition. There is nothing new or magical about planning, evaluation, and institutional study to aid institutional effectiveness. Rather, there is a renewed emphasis, a clearer objective, and an external emphasis to encourage action. This emphasis of the 1980s on evaluation and assessment will be replaced in the 1990s or the twenty-first century by other imperatives! In the meanwhile, an emphasis on institutional effectiveness and the planning, evaluation, and institutional study necessary to bring it about can only help improve institutions. Institutional effectiveness will make colleges and universities better places.

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ORGANIZING AND CONDUCTING INSTITUTIONAL RESEARCH PROGRAMS

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The relatively recent growth of institutional research as a profession has in many regards paralleled that of higher education in general. Although scattered institutional reports and studies can be found dating back to the 1920s and 1930s, the majority of activities that today are called institutional research trace their roots to the growth period of the late 1950s and the 1960s. Recognition of the field as a separate specialty within higher education administration increased following the first institutional research forum in Chicago in 1961.

One of the driving forces behind the initial growth of the profession was the requirement that colleges and universities report various kinds of data for planning purposes. As institutions of higher education grew in size and complexity, both internal and external entities began requiring data by which to monitor their development. The fact that the growth was aided in large part by state and federal funds, even at institutions that did not receive direct subsidies from state coffers, added to the reporting requirements, since governmental agencies had a responsibility to the taxpayers to show how the revenues were being spent. At the same time the development of the computer and analytical techniques, borrowed from operations research, made the summary and analysis of large amounts of data more feasible.

External Reporting

The types of surveys and other reports completed by institutional researchers for external entities are quite varied in terms of audience, timing, and other characteristics. A number are periodic, being annual, semiannual, each academic term, and so forth. Others are more sporadic, but still considered to be important enough to take the time and effort to complete them. While some reporting to external agencies is mandatory, as in the case of certain reporting requirements of state governing or coordinating boards for state-supported universities, most is legally voluntary. A number of reports, particularly to the federal government, may be classified as quasi-mandatory. These surveys cannot be required by the U.S. government, but are considered to be so important by the government and most colleges and universities that they are considered to be mandatory for all practical purposes. Some of the most valuable reports from the institutional point of view, however, are the result of voluntary efforts among colleges and universities, especially those in close geographic proximity or with similar institutional missions.

The HEGIS/IPEDS series of surveys are among the best known of the national, federally-sponsored reports. HEGIS is the acronym for the Higher Education General Information Surveys, a group of surveys conducted from the late 1960s until fall 1987, when they were succeeded by IPEDS or the Institutional Postsecondary Education Data Series. The HEGIS/IPEDS surveys, though varying in number and subject each year, provide some of the best national data regarding higher education student enrollments, faculty numbers and salaries, institutional financial measures, and library holdings. The relative consistency of definitions over time has enabled this data source to be quite useful for historical comparisons. While definitional and other problems existed in the HEGIS surveys and continue to exist in the IPEDS era, this series of reports remains one of the best sources of baseline data, particularly at the national level. Most institutions of higher education have recognized this fact for years and have placed a high priority on responding to the surveys.

Another well established annual survey, this one dealing exclusively with faculty salaries, is conducted by the American Association of University Professors (AAUP). For a time, the HEGIS survey of faculty salaries and the AAUP survey were both conducted each year, despite their similarity to each other. In recent years the HEGIS/IPEDS series has been more sporadic in nature, due to funding limitations, so the AAUP series provides the best data available nationally as to average faculty salaries by rank and gender over a number of years. The AAUP definitions have also been more consistent than those of HEGIS and IPEDS. One of the best features of the AAUP survey is the fact that the results are reported annually by institution in *Academe*, the AAUP publication, so they are widely available. The broad range of institutions, large and small, public and private, which submits faculty salary data to AAUP also encourages greater utilization of the results.

As noted above, the AAUP survey is conducted by a professional organization of faculty, while the HEGIS/IPEDS data have been gathered by the federal government, more specifically by the Department of Education. Other federal agencies survey colleges and universities as well. Among the types of surveys with which institutional researchers are most likely to be involved are those conducted by the Office of Civil Rights (OCR), such as the Workforce Profile, by the Office of Federal Contract Compliance (OFCCP), and by the National Science Foundation (NSF). The two former groups focus on possible illegal discrimination, while the latter organization gathers data on research expenditures and scientific manpower. The NSF data are published and widely distributed, so they too are quite useful in making comparisons across institutions and over time.

Most states require a number of reports and surveys from state-supported institutions. The range and variety of these are extensive and seemingly limited only by the creativity of the bureaucrats working for state governing or coordinating boards; data on student enrollments, numbers and types of faculty, space utilization, and expenditures are among the most common. Ideally the information is to be used for statewide planning purposes, but in virtually every state there are reports which are done each year that are never used and whose purpose has long since been forgotten. The reason given for still requiring such data is usually that they may be useful for something at some time in the future--a response that is not normally well received at the campus level. Similar reasons have been known to be given by campus administrators regarding internal reports as well, however.

When state level reporting is well done, it can provide information that is useful for both statewide and institutional planning purposes, while actually saving the colleges and universities time and money. Easily accessible data by institution, for example, eliminate the need for each institution of higher education to survey the others when making comparisons. Aggregated to the state level, the data also provide a much broader perspective than is available at any one college or university. A number of states have been able to convince private institutions to participate voluntarily in such data gathering efforts, in order to provide a more comprehensive statistical view of the status of higher education in the state.

A recent development at the state level, particularly in the South, is the requirement that institutions report data on student learning, often using the term outcomes assessment to describe these activities. (See Ewell [1985] for a summary of several models for assessing outcomes.) The reporting requirements, and instructional and evaluation activities which underlie the data, vary in their rigidity, but most institutional researchers in states that have mandated outcomes assessment reporting have been affected in some way. With the Southern Association of Colleges and Schools (SACS) and a number of other regional and disciplinary accrediting bodies showing interest in outcomes assessment, it would seem reasonable to suggest that such efforts will continue to involve many institutional researchers. While the implementation of outcomes assessment requirements and reporting has been proposed as a tool to aid curriculum planning at colleges and universities, it is too early to predict how useful outcomes assessment will be to the planning process at the institutional level over the long term.

In addition to the comprehensive national and state surveys, there are a number of other reports that are national or regional in scope and which offer useful planning information when the data are summarized. The Office of Institutional Research at Oklahoma State University (OSU), for example, annually surveys a number of larger universities to obtain average faculty salaries by academic discipline and faculty rank, including a category of new assistant professors. Faculty salaries by academic field are not available from another single source for such a broad range of disciplines. Even the smaller college can use the OSU data to gauge the "market value" of new Ph.D.'s in departments where faculty vacancies occur. At larger institutions, the information can be used to compare, by department or other academic unit, how well the faculty members in each discipline are being compensated vis-à-vis the national norm.

The College and University Personnel Association (CUPA) annually conducts an administrative salary survey analogous to the ones done for faculty salaries. The results are widely available and appear in abbreviated form in *The Chronicle of Higher Education*. While CUPA does not have a category for newly appointed administrators, the data are reported by broad institutional category, based on student enrollment. Search committees and administrators trying to determine the average salary for a purchasing or bookstore manager, for example, find the CUPA data useful in establishing salary ranges. It is also a good resource regarding more traditional academic positions, such as college deans. Currently-employed administrators have been known to use the data in salary negotiations as well, both with those who report to them and those to whom they report.

Most colleges and universities belong to one or more voluntary organizations of similar institutions, such as the Association of American Universities (AAU), Association of American Colleges (AAC), American Association of State Colleges and Universities (AASCU), National Association of State Universities and Land Grant Colleges (NASULGC), and so forth. As a group, these are sometimes referred to as the "One Dupont Circle crowd," after the building in Washington, D.C. where most of them are housed. Most such organizations collect data from their members regarding tuition levels and other student costs, fall enrollments, and a number of other variables. Such information can be quite useful to individual members in planning, since they are limited to a group of institutions that have already identified themselves as having somewhat similar missions.

Less formal structures for data sharing have also been established by colleges and universities, usually among a smaller group of self-selected "peers." The level of detail tends to be greater, but with fewer institutions involved, than the national surveys. Examples of these include: the SUG 25, a group of large universities in the South; the Urban 13, a group of urban universities; and the TUFTS/EDUCOM Data Sharing Project, a group of 50 private liberal arts colleges and 20 private research universities. (As an aside, neither the SUG 25 nor the Urban 13 have the number of members reflected in their titles.) The distinguishing feature of these groupings is that they are voluntary and self-selected. Each sets its own definitions for data elements and determines what kinds of data are collected. Summarization and reporting procedures have been adopted over time on a consensus basis. Since the institutions involved determine what is useful, the results of these efforts tend to be used more internally at the participating colleges and universities. The levels of trust and cooperation are also sufficiently high to make response to ad hoc requests from group members more likely.

In addition to the surveys noted above, a myriad of other requests for data reach institutions of higher education annually. These range from those done by for-profit organizations publishing guides to prospective undergraduate and graduate students to those done by doctoral students in conducting their dissertation research. One caveat is in order regarding opinion surveys directed to top administrators such as presidents and academic vice presidents: the busier the person, the less likely he or she is to respond to a survey personally. Experienced institutional researchers quickly learn that the survey sent directly to the president was, in fact, completed by a graduate assistant. Hence conclusions drawn from such studies should be treated as tentative at best.

Internal Reporting

The discussion thus far has concerned external reporting, with the internal use of the results of such surveys being highly recommended, but not usually the primary reason for their completion. More important to institutional planning and management, however, is the judicious use of internal reports. While some standard reports distributed within a college or university community are the result of external reporting, most internal reporting should be tailored to the unique mission, issues, priorities, and traditions of the individual institution. Both the data collected and the mode of presentation have to be sensitive to local needs in order to be useful to decision makers.

One of the most common products of the internal reporting function is a factbook. A factbook is simply a collection of the most important information concerning an institution, ideally presented in an interesting and easily understood format. An important aspect of the factbook to consider is the fact that it is, despite its seemly objective character, a political document, since it reports data that are seen to be important internally. This point is made well in the chapter on factbooks by Jim Nichols and Rich Howard in the *A Primer on Institutional Research* (Muffo & McLaughlin, 1987).

As an example, a common graphic in a factbook would be a map of the United States, with the number of students attending an institution from each state noted on the map. This type of graphic makes the point that the institution involved draws students from a wide geographic area, implying a national reputation and possibly even a national mission. One might avoid including such a map in a factbook, however, if the state legislature were considering a restriction on out-of-state students at the institution due to dissatisfaction with past admission policies. The data are nonpolitical, but the point that they make may not be.

Besides providing a statistical description of a college or university, a factbook serves the function of being the "official" data source. It is not uncommon in higher education organizations to have data disagreements between units; the factbook should serve as the arbiter of such disagreements. A number of footnotes may be required on certain pages, but it is possible with much patience and negotiation to get most people to agree to accept the institutional factbook as accurate, so that disagreements can focus on policy differences rather than whether or not a certain number is correct. Such acceptance also enables the institution to develop trend data, in order to study patterns over time. One requirement is that the data be "census data," that is, obtained at a fixed point in time. A common example is enrollment data, which are often counted on the tenth day of instruction during an academic period such as a semester or quarter.

A caveat is in order regarding both the external and internal reporting roles. The institutional research function, which exists even at colleges and universities without formal institutional research offices, is sometimes limited to reporting. In the most extreme cases, people are limited to answering surveys, which are considered a nuisance, and the data generated are ignored otherwise. In other cases internal reporting is also done, but the function of institutional research is limited largely to responding to surveys and generating reports. The role that institutional research can play in providing information for internal planning and management can go far beyond these relatively mundane activities, since a deeper understanding of the forces affecting an institution internally and externally can only improve its operation. This role frequently involves special studies.

Special Studies

A major activity of a strong institutional research operation is that of conducting special studies. These can be described as responses to ad hoc requests or implied requests for data that are not routinely gathered and summarized. Some can be relatively simple and require only a short computer program; examples would include such activities as determining the number of applicants for admission with high school grade point averages of B and SAT or ACT scores above the 90th percentile, the number of faculty over 60 years of age, the classroom vacancy rate between 12:00 noon and 1:00 p.m., and so forth. The easiest responses to such requests are those that can use existing data sources and which are relatively straightforward.

More challenging, and often more interesting, are those studies done in response to more complex questions. A few examples of typical complex questions are: the relationship between high school academic performance, standardized test scores, and college academic performance for a group of students; a reasonable cut-off point for scores on the TOEFL (Test of English as a Foreign Language) for foreign students; the performance of the special support program for students with academic deficiencies; and so forth.

The variety of such questions and studies to respond to them is endless, but the skills necessary to address them properly are more sophisticated than those required to respond to surveys. Special studies require a thorough understanding of the institution involved and higher education generally, the latter being necessary in order for the local situation to be put into a broader perspective. Unfortunately, many colleges and universities do not seem to place a high priority on getting sound answers to such questions from whatever office serves the institutional research function, for they hire relatively low paid people without much training or experience in higher education institutions to establish and maintain their institutional research operations. The consequence is an office that spends most of its efforts in reporting and, when a few special studies are attempted, tends to "reinvent the wheel" by discovering things that have been well known elsewhere for a long time. There is also less of an ability to perform one of the most difficult, but absolutely necessary, institutional research roles: helping decision makers formulate questions that can be answered from data which are available or accessible.

While most special studies are considered to be one-time affairs, it is not uncommon for them to reoccur. If a relatively simple data question has been asked more than once, consideration should be given to making the special report a recurring, standard report. More complex special studies may likewise be required on a periodic basis, but may not have to be done each year. A prime example of a comprehensive special study done on a periodic, but not annual, basis is the institutional self-study completed as part of the accreditation process. Complex special studies on important topics (e.g., academic advising or economic impact of the institution on the community) can be done every three to five years, with the results being available for use in the self-study process when it occurs. Such an approach is very much in the spirit of recent developments in regional accreditation standards which require evidence of a continual self-study process, as opposed to one Herculean effort every five or ten years.

Much of the emphasis on special studies has focused traditionally on products, for example, an academic department, the library, the print shop, the admissions office, the alumni office, and so on. What is frequently overlooked, however, is the study of processes. For instance, a great deal can be learned by studying the decision-making process for student affairs policies, or the process for updating data elements on the personnel database, or the faculty appeals process. Probably the best approach is to study both the product (e.g., the computer center) and the process (e.g., policy development regarding the purchase and utilization of computing resources), since the two are so interrelated.

Other Institutional Research Activities

There are several other types of activities in which institutional researchers are involved which are not always associated with traditional institutional research offices. One of these is the coordination and support of those performing the institutional research function within other units of the college or university. Other administrators, such as assistant and associate deans, vice presidents, admissions officers, and even some faculty, participate in institutional research activities on a regular or irregular basis, in support of the missions of their respective units. Rather than discouraging such direct data access and studies, a progressive institutional research officer seeks to encourage and support those involved.

Another activity performed at a central level in support of decentralized institutional research is acting as a clearinghouse for the reception and distribution of data among the various parties at an institution. All or most surveys coming into the organization can be coordinated through a single office, even when that office does not complete the survey, in order to minimize duplication of effort and to allow for an initial screening as to whether or not a response is desirable. Likewise, many faculty and staff find it helpful to begin looking for institutional information in a single place, such as an institutional research office.

The institutional research office should also serve as a center of expertise in the process of institutional research as well as the products, such as data. The staff should be well read and up-to-date regarding trends in higher education generally, so that those within the institution can learn from the experiences of other colleges and universities. In addition, some attempt should be made to monitor emerging trends in the larger society outside of higher education so that the institution can plan for societal changes which are likely to affect it directly and indirectly. Other types of expertise can reside in offices of institutional research. As progenitors and recipients of numerous surveys, staff in these offices tend to develop survey research skills that can be quite useful to others in the academic community involved in survey research; locally available survey research expertise can save a great deal of time, energy, and potential grief if consulted beforehand.

A relatively recent development in higher education circles has been the use of institutional research to support internal academic and administrative program evaluation. A common approach is for a college or university to evaluate each unit on a cycle, often five years, and to use data provided by institutional research and other sources in the evaluation process. An emerging trend is for units not undergoing periodic evaluation to request one be done by a relatively objective unit outside its immediate environment; institutional research offices have provided this type of internal management consulting role in a number of instances quite successfully.

In brief, the primary purpose of institutional research is to provide accurate, readily available information for planning and management purposes in a timely fashion. To do this properly, a mechanism should be developed for the periodic evaluation of the institutional research function and unit or units charged with carrying out that function. As with any evaluation, it should attempt to provide information to those involved that will help them improve their performance and resulting level of service to the institution of higher education employing them.

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CRITERIA FOR ACCREDITATION
SECTION III: INSTITUTIONAL SELF-STUDY

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Accreditation ". . . has moved from a primary emphasis on process and resources to increased concentration on results and learning outcomes" (COPA, p. 5). This new emphasis embraces the scientific management concepts that resulted in the development of institutional research offices in the early 1960s. The Commission on Colleges of the Southern Association of Colleges and Schools (SACS) is the first regional accrediting body to mandate these management concepts as part of accreditation requirements. It appears certain, however, to become a major component in accreditation activities across the nation.

The addition of outcomes assessment to the accreditation process has critical implications for the conduct of the self-study. The purpose of this paper is to discuss the self-study process as it pertains to the area of institutional assessment/evaluation. Traditional measures and activities of the self-study have not lost their importance or should not be ignored, but the strategy outlined is to complement and, in some cases, provide the foundation and structure for the self-study.

Self-Study Design

In the past, the self-study concentrated on the development of resource measures or inputs (number of degrees awarded, research budgets, number of applications, etc.) and documentation of the many institutional processes. Often it was up to the visiting team to evaluate the adequacy of these resources and make recommendations useful to the institution.

The *Criteria for Accreditation* (Commission on Colleges, 1987) requires that the institution evaluate the adequacy of its processes and resources in light of its stated purposes or mission. This implies continued assessment, or evaluation, of the institutional outcomes to identify weaknesses or trends that run counter to the mission of the institution. The results of these evaluations are then the catalyst for corrective action, and the process begins again. In this mode, the institution is truly studying and evaluating itself.

It is interesting to note that the accreditation process has moved from a formative evaluation process to a summative evaluation process. The implication of this is quite significant, for now the self-study process should not be a two-year institutional evaluation activity sandwiched between eight years of "doing good things." It is critical that the institution develop the capacity to continually review and evaluate the effectiveness of its programs in light of its stated mission, and adapt when and where necessary to correct weaknesses. In this environment, when the formal self-study is completed and the report is written for the visiting team, there should be no surprises.

Implied above is the notion that the design of the self-study should include the results of the institution's ongoing evaluation processes. In fact, it could be argued that the self-study should, in large part, be a compilation of the results of periodic evaluation studies and documentation of corrective actions taken as a result of evaluation activities since the last SACS visit. (Obviously, this implies that such activities have been taking place on the campus and that the results and subsequent actions have been documented.)

The best of all possible worlds in the area of institutional assessment is described above. Assuming that the above situation does not exist, the following describes how an institution might gear up to conduct an ongoing assessment process and, as such, put in place the critical elements of the self-study. It would seem that the first step toward the development of an inclusive ongoing institutional assessment program should be found in the institutional research function. And, in fact, on page 11 of the *Criteria*, SACS speaks to its importance by requiring that the function be regularly evaluated.

There are resources that should be available to an institutional research office or function. It is important to remember that institutional research is a staff function, typically designed to support the management of the institution (Muffo & McLaughlin, 1987). Its creation or presence is not, nor should be, considered the campus institutional assessment unit. While a critical factor in the assessment activities, the institutional research function should be there to support planning and decision-making activities of administrators across the campus who have programmatic responsibilities.

Jim Montgomery illustrated a conceptual model which described the components of an assessment program (purpose-assessment-purpose). (See preceding paper in this publication.) In Table 1, this conceptual model is "operationalized" by comparing its components to that of a typical social science research design. In general, institutional assessment (or a self-study) can be thought as a series of focused research/evaluation studies.

Table 1. An "Operationalized" Assessment Program

Research Design	Self-Study Design
Statement of the Problem	Define/Reaffirm Mission
Literature Review	Area Reviews by Subcommittees
Development of Research Hypotheses	Development/Review of Area Goals and Objectives
Methodology:	Methodology:
Instruments Design Sample Procedures	Instruments Design Sample Procedures
Data Analysis	Data Analysis
Review of Results	Review of Results
Recommendations Identified Weaknesses	Recommendations to Strengthen
Implications for Further Research	Develop Strategies to Evaluate Impact of Corrective Actions

On the premise that the function of institutional research is primarily one of staff support, only two of the above components would ordinarily fall under its purview: Methodology and Data Analysis. Other components of the study should be the primary responsibility of administrators and/or faculty who are directly involved with the program under study. As is reiterated several times by the Commission (1987), it is critical that senior administrators be visibly involved in the process. At the institutional level, the president/chancellor and governing board must define or reaffirm the mission of the institution. At the program level, vice presidents/chancellors, deans, and directors must provide direction in the establishment of the goals and objectives of their program. Likewise, they must be instrumental in the interpretation of evaluation results and the development of strategies to address weak areas identified in the evaluation. In addition, the measures to be used to evaluate the effectiveness of these strategies need to be identified through negotiation between those with responsibility for the program and the institutional research staff.

It should be noted that evaluation statements are present in all sections of the *Criteria*. While Section III specifically addresses the responsibility of the institutional research function, it should be realized that the institutional research staff should be involved in evaluation of all components of the institution. In many areas they can provide a coordinating function, making sure that viable processes for evaluation are being developed by the individual subcommittees.

This is not unlike the role of the visiting team member who has responsibility for institutional assessment. In many cases, he/she will have defined expectations for evidence of assessment activities to other team members as they execute their particular assignments.

Data Concerns and Analysis

In the past, it seems that accreditation was primarily concerned with data. Table after table of data pertinent to one program or another was developed in an effort to demonstrate its processes and the quality of input and output. The accreditation process was very much data driven. The new emphasis on quality and appropriateness of output shifts the process to one driven by information. (See Jones, 1982, for a short but very readable discussion of data and information.) The point here is that the data collected in the self-study will have to be analyzed and turned into information instead of simply presented in a series of tables. The institutional research function must collect and analyze data for the purpose of creating information to be evaluated qualitatively in reference to stated goals and objectives by senior administrators and faculty.

Summative evaluation studies in the final analysis are almost always concerned with the evaluation of trends. The impact of strategies to correct weaknesses will rarely be seen immediately. The trick then is to develop standard definitions and processes for data collection. With institutional data, the process is often referred to as the creation of "census" files. In essence, a census file is a snapshot of the operating (and as such dynamic) file on a specific data each year or semester. A snapshot of student data files may be taken on the last day to add a class at the beginning of each academic session. Personnel or facility data on the other hand may be frozen (another word for taking a snapshot) once a year, usually in the fall. External demands typically dictate the times when census files are created.

It is critical that the census files be checked for accuracy and recognized by the senior administrators as the institution's official source of data to be used for all external reports. Using the census files as the single source of data in factbooks and other documents developed to support planning and decision making across the campus will insure a consistent source of base data across all internal and external agents. A second attribute of consistently developed census files is that trend analyses are not contaminated by calendar aberrations and questions challenging data compatibility or comparability from year to year.

Trend analyses can also be conducted using data collected through surveys. Peter Ewell (1985) describes a series of surveys that when repeated periodically over a number of years will provide trend information about student outcomes.

A third important type of data in a self-study is that which allows the comparison of an institution to peer institutions. Again, comparisons with like institutions in a number of areas, over a period of several years, will result in trends that may identify intended, or unintended, gains or losses by an institution with respect to its peers.

The above discussion has centered around quantitative data that are usually manipulated through a computer. Another extremely important type of data in a self-study, however, is qualitative. This type of data is often found in the form of minutes taken during task force or committee meetings. Review of this type of data can reveal the type of concerns discussed and the data used in the development of policies or courses of action taken. It is possible that review and analysis of this type of data will result in insights of how decisions are made on the campus.

The first and last three components of the self-study/evaluation design presented above are qualitative. Review of these decision making processes can reveal important insights about the extent with which senior administrators have been involved in the assessment of their institutions.

Conclusions

The new accreditation requirements of SACS demand that institutions continuously review and evaluate themselves in relation to their mission. Institutional assessment implies that all components of the institutions review their effectiveness in meeting their goals and objectives. The purpose of this paper has been to provide some insight that might help in the development of an ongoing assessment process and, as such, prepare the institution for its self-study. These ideas are neither new nor novel. The institutional research community has been discussing and writing about them for the past 25 years. What is exciting, however, is that the scientific principles of management will become a visible part of the ongoing decision making and policy development process of evaluation of the institution's effectiveness with respect to its goals and objectives. In the "Introduction" to *Resource Manual on Institutional Effectiveness* (1987), the Commission on Colleges list five institutional benefits of this type of management. In general, however, the primary benefit of institutional assessment is better-informed management of the campus.

While, from an institutional standpoint, the benefits of an ongoing assessment program are potentially considerable and can help the institution to successfully meet its mission, the key is the involvement and support of senior administrators. From an operational or program standpoint, the self-study process, while still time consuming and demanding, provides a structure that should be less disruptive of the institution's normal activities. If an ongoing evaluation process is in place, the self-study process and report should be (1) the coordination of past evaluation studies, (2) a review of the documentation of corrective actions taken in response to the ongoing evaluation process, and (3) evaluation of the effectiveness of the corrective actions taken.

The primary thesis of this paper is that when an institution has in place a well thought-out ongoing assessment program, its self-study, by definition, is ongoing. The critical point is that for two years before the visit, the institution is not swallowed up by hectic data collection and point-in-time analyses. Instead, the self-study committee and its many subcommittees could be freed to assess the past direction and quality of the institution and its outcomes and to develop strategies to shape its future.

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INSTITUTIONAL RESPONSE CAPABILITIES

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This conference is addressing a topic that evokes great interest among institutions of higher education--especially if the institution will be undergoing reaccreditation within the next few years. Even colleagues on campuses that will not be facing reaccreditation until the mid-1990s are expressing concern about what efforts they should initiate now in order to demonstrate "institutional effectiveness." The term, institutional effectiveness, may draw conference attendees in part because of the sense of panic at what seems to be an overwhelming task.

So, there is concern about what it means to demonstrate institutional effectiveness. Yet what are institutions actually doing in preparation for accreditation under the new criteria established by the Southern Association of Colleges and Schools (SACS)? Are institutions at ground zero, with virtually no ongoing, campuswide activity related to the demonstration of institutional effectiveness? Or are some campuses well prepared with their staff mobilized to show that their institutions are accomplishing their purposes? Are resources available to support these efforts? Are some campuses better prepared than others? If so, what characterizes these campuses?

These are the questions which Dr. Karen Gentemann, North Carolina State University, and I attempted to answer when we surveyed 311 institutions that will be coming up for accreditation by SACS from 1987 to 1991. The survey attempts to shed light on the capabilities of institutions to respond to the institutional effectiveness criteria. Specifically, the research addresses the extent to which institutions that will be reaccredited within the next five years by SACS are currently assessing institutional effectiveness. Differences in institutions' involvement in assessment activities and in the support for the office responsible for assessment are compared for public versus private institutions, by the level of institution (community/technical colleges, four-year degree only, comprehensive institutions, and doctoral-granting universities), and by enrollment (high vs. low). Of the 311 institutions surveyed, 167 institutions responded for a response rate of 54 percent. The institutions participating are representative of the sample when compared by governance, level, enrollment, and state.

A brief description of the procedures follows. The chief executive officer received a letter with the questionnaire attached. The letter asked that he/she direct the questionnaire to "the person who will provide the data and analysis to support the evaluation process" required for the institution's accreditation. The letter stated that in many cases the person will be the director of institutional research, but that persons with other titles may be assigned the responsibility.

The questionnaire contains 31 items describing evaluation, planning and institutional research activities required by SACS to demonstrate institutional effectiveness. For each activity, respondents indicated if it was "performed systematically and campuswide," "either not systematic or . . . not campuswide," "unknown," or "not applicable." For the purpose of this paper discussion will cover the percentages responding "performed systematically and campuswide," as required by SACS. In addition to the 31 items, 6 questions ask the availability of resources to the offices of the respondents.

Responses were compared by governance, level, and size of the institutions. The relationship of two derived variables to responses were also examined. These variables are the function of the respondent's office and the existence of an institutional research office. The function of the office was coded, based on the respondent's title, with titles designating responsibilities for research, evaluation, and/or planning constituting one category and all other titles grouped into another category. The existence of an institutional research office was based on an examination of the organizational charts and the inclusion of the director of institutional research in the *Higher Education Directory* (1987).

Results

The majority of institutions that responded were under public control (65%). Approximately half (46%) were Level I institutions; 21 percent, Level II; 20 percent, Level III; and 13 percent, Level IV. Of the 108 public institutions, the majority (60%) are Level I; in contrast, of the 59 private institutions, 51 percent are Level II institutions.

Sixty-one percent of the 167 institutions do not have formal institutional research offices. A slightly higher proportion of private as compared to public institutions do not have institutional research offices (65% vs. 57%). Only 41 percent of the respondents work in offices of research, evaluation, or planning. The range of respondents' titles is broad, from chief executive officer to faculty serving as chair of the self-study committee.

When the 31 items were treated as a single scale measuring "institutional effectiveness response capability," differences that reached statistical significance for two of the institutional characteristics were found. Overall, public institutions are engaging in more activities to demonstrate effectiveness than private institutions. Also two-year community, technical and junior colleges are performing more of the activities than the baccalaureate-granting institutions. Size, the existence of an institutional research office, and the function of the office given responsibility for supporting the institutional effectiveness activities did not relate to scores on the scale.

How did institutions respond to the specific items that are requirements by SACS in order to meet the institutional effectiveness criteria? To answer this question, the items are grouped into content areas for ease of presentation.

Planning Activities: Not quite three-fourths of the institutions have currently established procedures for institutional planning and evaluation. In other words, over 25 percent have yet to even begin the process. About two-thirds have facilities plans. Two-thirds also have defined a process for curricular planning, review and evaluation. Slightly over half have a maintenance plan, a plan for the assignment of faculty responsibilities, and can demonstrate that educational planning guides budget preparation. Slightly less than half carry out research studies of institutional purposes, policies, procedures, and programs--the heart of the assessment of institutional effectiveness. Only a third are able to demonstrate that institutional research supports planning--not surprising when only 39 percent of the institutions even have institutional research (IR) offices.

More differences across types of institutions were found on the items relating to planning than to other content areas. Institutions with larger enrollments were more likely to have procedures established for institutional planning and evaluation, to have facilities plans, and to demonstrate that IR supports planning. If the respondent's office had responsibility for research, evaluation, and/or planning, then the institution was also more likely to have established procedures for planning and evaluation and to demonstrate that IR supports planning. These institutions were also more likely to report carrying out studies of purposes, policies, procedures, and programs. Institutions with IR offices were more likely to report that they demonstrate that IR supports planning--not a surprising finding. Public institutions were more likely than private institutions to have facilities plans and maintenance plans. However, level of institution--community/technical colleges, senior colleges, comprehensive universities, doctoral universities--did not relate to these items.

Evaluations of Faculty, Instruction, and Administrators: The item which received the most positive responses was evaluations of full-time faculty, with 91 percent responding affirmatively. Somewhat unexpectedly, fewer of the Level IV, doctoral-granting institutions report carrying out campuswide faculty evaluations on a regular basis (71%) than institutions at the other levels (Level I, 94%; Level II, 91%; and Level III, 97%). Similarly the level of the institution was related to evaluations of part-time faculty. More community and technical colleges conduct regular campuswide evaluations (86%). Sixty-six percent of Level II, 63 percent of Level III, and 50 percent of Level IV conducted systematic, institutionwide evaluations of part-time faculty. Almost three-quarters of the institutions have guidelines for the use of faculty evaluations, and two-thirds conduct studies of faculty workload. Over 50 percent study the effectiveness of instruction and also evaluate administrators. Less than 50 percent evaluate graduate teaching assistants (46%) and document that evaluations are used to improve teaching (43%). Although most institutions are evaluating faculty, the results are not necessarily being used to improve teaching. Interestingly, only the level of the institution is related to any of these items.

Student Outcomes Assessment: The new focus of accreditation is on results, and student outcomes is the major emphasis. The picture, however, is not positive, in that only 41 percent are currently defining expected student outcomes, and only 44 percent are evaluating the outcomes. The discrepancy in the percents implies that some institutions attempt to measure student outcomes before they have identified expected outcomes. A third of the institutions recommend methods of educational assessment, and only 29 percent can show that evaluation of students discriminates high and low achievement. No differences by type of institution were found on these items.

Public Service, Research, and Institutional Research: Areas that have received less attention than student outcomes but may be just as important in the assessment of institutional effectiveness are evaluations of the public service mission, the research mission, and institutional research. Less than half of the institutions report systematic, campuswide activity in any of the six items relating to these content areas. Slightly less than half evaluate off-campus programs. About two-thirds of Level I (community and technical colleges) evaluate off-campus programs as contrasted to 33 percent of Level II, 33 percent of Level III, and 19 percent of Level IV institutions. Similarly, less than half of the institutions have goals for continuing education and extension, but no differences by type of institution were found on this item. Only one-third of the respondents evaluate the institution's research mission (responses limited to those for which the item was applicable). Similarly, a third evaluate institutional research; however, responses to this item differed by type of institution, with larger institutions (44%) more likely to do so than smaller institutions (23%). Also institutions with IR offices and those offices that had responsibility for research, evaluation, and/or planning were more likely to evaluate institutional research. Less than a third document the effectiveness of continuing education and extension, and less than a fourth evaluate the public service mission. More public (30%) than private (11%) institutions evaluate the public service mission.

Resources: Responses to the questions relating to resources varied greatly depending on whether the question referred to the office's present responsibilities or to all the activities required to assess institutional effectiveness. In general, the responses indicate that most consider their resources adequate to conduct current activities, but not for assuming all assessment efforts to demonstrate institutional effectiveness. The majority (55%) indicate that their budgets are adequate to carry out present responsibilities, whereas 77 percent state that their budgets are not large enough to carry out all the planning, evaluation, and research activities mandated by SACS. However, 55 percent state that their staffs are not large enough to carry out even their current responsibilities; and 81 percent indicate that their staffs are inadequate for all activities pertaining to the evaluation of institutional effectiveness. Whereas two-thirds of the institutions state that their staffs have sufficient knowledge, skills, and experience for performing their current jobs, 55 percent say that their staffs do not have the expertise to assume full responsibility for the evaluation of institutional effectiveness.

Responses to the six items on resources did not differ by governance, level, or student enrollment. The existence of an IR office related to this item: "My staff is large enough to carry out all activities . . . ." Institutions with institutional research offices were less likely to agree with this statement than those without IR offices (1.63 vs. 2.01). Respondents who were in offices responsible for research, evaluation, and/or planning were also less likely to agree with this statement than those whose offices had other functions (1.66 vs. 2.01). In other words, those with formal research offices and responsibilities for research showed less confidence that their staff was large enough to handle the new requirements.

Discussion and Implications

Overall, public institutions and community, technical, and junior colleges report more activities in support of the demonstration of institutional effectiveness. However, the results from the survey did not identify major systematic differences across types of institutions in the assessment of institutional effectiveness. The few differences that emerged were to be expected. For instance, it was anticipated that larger schools would be more likely to have ongoing institutional research activities and that community colleges would be more likely to evaluate off-campus programs and part-time faculty.

The disconcerting fact is that less than half of the institutions report evaluation and planning activities in 16 of the 31 areas. The overall picture is not positive. The majority of the institutions have not begun mobilizing to meet the new requirements in the areas of student outcomes assessment, the evaluation of the research and public service missions, and the evaluation of continuing education and extension programs.

The majority of institutions have not approached student outcomes assessment as an ongoing activity with an institutionwide perspective. Yet all regional as well as specialized accrediting agencies are now emphasizing outcomes. Only 44 percent have defined expected outcomes, the first step toward the development of assessment procedures. Even fewer institutions have recommended or selected ways of evaluating the achievement of educational outcomes. Within the next few years these institutions must demonstrate that they are not only evaluating the achievement of student outcomes but that they are also using this information in program planning and improvement. Certainly the results indicate that all institutions, regardless of size, governance, or level, need to begin the first step in student outcomes assessment: the statement of expected outcomes.

Despite the emphasis by SACS on evaluation of all institutional goals, few institutions are systematically addressing their research and public service missions. What are the expected outcomes of research and public service? What assessment procedures are appropriate in these areas? What criteria should be used to judge the effectiveness of research and public service activities? Clearly those institutions with broad missions of teaching, research, and public service will find that their efforts at evaluation must be even more comprehensive and will require more resources than institutions with the more specific mission of undergraduate education.

Another area of concern is whether institutions have designated administrative responsibility for institutional research. The fact that only a third currently can show that institutional research supports planning and can evaluate the effectiveness of institutional research implies that responsibility may not yet have been assigned. In this sample only 39 percent have formal institutional research offices, and only 42 percent of the offices responding to the survey even function as research, planning, and/or evaluation offices. Before accreditation, such responsibility should be assigned, the linkage to planning and evaluation must be evident, and the effectiveness of the activities must be assessed. It appears likely that new organizational units with institutional research responsibilities will emerge within the next few years.

A disturbing finding to those of us who work in institutional research offices is that the existence of a formal institutional research office has limited effect on current assessment activities. Perhaps Pace's description of the dilemma of institutional research offices provides insight into the reasons:

> One might suppose that the institutional research office within the college would be the natural locus for ongoing institutional case study. But it might not be. Most such offices are beset by deadlines and heavily involved in basic accounting activities related to budget making, cost analysis, and similar matters, all of which orient the staff and its activities to serve administration and management . . . A case study needs data, in large amounts, but it also requires time for exploration, for reflection, and for thoughtful evaluation. Some institutional research offices have the capacity for educational evaluation as well as institutional accounting. Some do not. (Pace, 1979, p. 124)

Not surprising in this study is that those serving in an institutional research capacity were most likely to indicate insufficient staff resources to carry out the full array of evaluation and planning activities. They, better than anyone, know the dilemma described by Pace and the extent of work required to conduct quality evaluations. These findings lead to recommendations for all institutions--whether public or private, doctoral or two-year, large or small.

Recommendations

First, all institutions should designate an administrative unit responsible for institutional research. These offices must be clearly designated as having responsibility for assessment, and they must not be weighed down by "accounting" needs. Furthermore, the units must support institutional planning. Thus, the positioning of the unit within the organization is critical.

Second, the research office must be sufficiently staffed so that it can carry out the "case study" of the institution. Across institutions, nearly half of the respondents need more staff just to carry out present activities. To assume responsibility for all assessment activities, the offices will need larger budgets, more staff, and more experienced, knowledgeable personnel. As Pace suggested nearly a decade ago, the usual criteria used in selecting an institutional researcher (i.e., a knowledge of computers and skill with data systems) are not necessarily the ones needed for quality evaluations. Rather, the desirable talents include ". . . a historical and philosophical view of the institution and of higher education in general; a knowledge and an understanding of curriculum and teaching and of student development and learning; . . . and the ability to select and collect information about the institution's effectiveness in fulfilling its diverse purposes" (Pace, 1979, p. 124).

Similar concerns were expressed by Van Maanen (1987) in his keynote address to the Association for Institutional Research, in which he called for institutional researchers to expand their horizons beyond the tabulation of data and into a contextual assessment of their institutions. Thus, the addition of knowledgeable staff with a broad view of institutional research is perhaps more critical than the mere expansion of staff. Experience in program evaluation, test development, and assessment of student development is more critical now than in the past.

Third, college and university administrators, governing boards, alumni, and legislators must recognize that costs are associated with the new accreditation requirements. In the area of student outcomes research alone, which the majority of institutions have not begun, the costs can easily run into thousands of dollars, as institutions either purchase existing instruments or undertake the complex, timely, and expensive process of locally developing and validating instruments. Institutions cannot simply add on to current tasks without increasing their budgets for assessment.

Most institutions have a long way to go before they can demonstrate institutional effectiveness. The breadth of activities has been described. But what these results do not tell us is the depth of the evaluation efforts. When an institution responds affirmatively that it carries out studies of institutional purposes, policies, and procedures--what does this mean? What kind of studies, and what is the quality of the "case study?" How useful are these studies in planning? The results of the survey do not allow assessment of the adequacy of the activities used to evaluate effectiveness. The conclusion, however, is that some institutions have yet to begin this task of stating goals and objectives, defining appropriate indicators of success, and developing assessment procedures that are a regular activity--not a once-every-ten-years response to reaccreditation.

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MINORITY RECRUITMENT, PERFORMANCE, AND RETENTION

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In the United States there has been a great deal of progress over the past three decades toward increasing access for minorities into higher education. Thomas and Mingle has documented that during the 1960s and early 70s, minority increases in higher education exceeded those of majority students if entering preparation, SAT scores, and so forth were taken into consideration. There has also been a great change in the distribution of minority students by type of institutions. Mingle noted that before 1950 nearly 100 percent of black students in the South attended predominately black institutions. Today, approximately 27 percent of undergraduate black students nationally and 50 percent in the South attend predominately black institutions with the other black students enrolling in predominately white institutions.

Over the past ten years, however, there has been a decline in black student enrollment in undergraduate institutions. Between 1976 to 1984 minority representation increased by 15 percent. In looking at individual racial/ethnic groups, however, Asian and Pacific islanders constituted the greatest amount of that growth, with a 63 percent increase in Asians. The black undergraduate enrollment over the same period declined by 8 percent and black graduate enrollment declined by 21.6 percent.

This black enrollment decline coincides with an era in which financial aid changed. Much of the growth in black and Hispanic enrollment during the 60s and 70s is attributed to increases in financial aid. In 1980 about 17 percent of all financial aid was in the form of loans with the balance being in the form of grants and scholarships. Today the distribution is fifty/fifty. This distribution of financial aid certainly makes a difference in desire for and access to higher education, and especially affects undergraduate and graduate enrollment of black students.

Of all segments of higher education a greater percentage of minority students are at community colleges than at other types of institutions. Blacks constitute 8 percent of undergraduate enrollment in four-year institutions and 10 percent in community colleges. A desirable goal for society would appear to be for black and Hispanic minority groups to represent at least the proportions of undergraduate and graduate enrollments that they represent in the general population. Blacks represent slightly over 12 percent and Hispanics represent nearly 7 percent of the population, but the further along these two minority groups move in the pipeline, the smaller their representation becomes. In terms of retention, although blacks represent 8 percent of undergraduate enrollments, they represent only 5 or 6 percent of the baccalaureate degree recipients each year. This demonstrates that blacks have a higher attrition rate.

The problems of outcomes and institutional effectiveness have to and should take minority issues into account. In fact, it is one of the most compelling reasons to conduct institutional effectiveness studies. As an example, although blacks represent 12 percent or better of the population, only 2.4 percent of professional engineers, 5.4 percent of mathematicians and computer scientists, 3.2 percent of natural scientists, 5 percent of physicians, and .9 percent of dentists are black. In all professions, minorities are under-represented.

The American educational system as a whole has been slow to improve the quality of education K through 12 or higher education. Grades K through 12 are indicators for near-future projections for higher education. Large numbers of black children still attend schools that are predominantly black. The uncertainty about black distribution at the K through 12 level and the quality of education being provided to students at those levels still exists. Annually the differences in the performances of these students in elementary and secondary schools on measures of the National Assessment for Education Progress are documented, and yet very little progress is made in eliminating the gaps. Even at the point of admission to college, blacks perform 100 points, on average, below whites on the verbal section of the SAT and 114 points lower in the quantitative section of the SAT.

This raises the question then of what does this represent for higher education institutions? It seems that many institutions do not know enough about their students, particularly their preparation and backgrounds, to serve them effectively. Educators often look at average or mean scores on the SAT, but know very little about the distribution of scores or the types of high school curricula and remedial/developmental needs of students who took the test. More minority students in actual number are performing on the upper end of the scale now than two decades ago, but educators know very little about the backgrounds and experiences of those people at the upper end compared to those minorities who are performing less well on the examination. Institutional researchers must address this issue as they proceed with outcome or institutional effectiveness measurement.

In conjunction with the Ford Foundation, I am currently working along with colleagues at Educational Testing Service (ETS) with five urban community colleges to assist them in determining who is enrolled in their institutions, how well their students progress through the institutions, and what happens to their students after they graduate or complete the community college curriculum. Initially the lack of information that was available was astounding and national sources were sought to help in understanding the status of the enrollments and the characteristics of students enrolled in community colleges, but not very much useful information was available.

The five community colleges, for example, did not have institutional research offices prior to beginning this project. The first step was to assist the faculty and staff in designing their own research projects. The decision was made to track groups of students, randomly selected over the course of four years, to determine the stop-out, drop-out, retention rates, and ultimately transfer rates and/or occupational attainment. One initial goal was to select small samples so that the institutions could follow the subjects effectively. Although tracking the whole population would be desirable, maintaining records of 1,300 to 1,400 students for that period of time was impossible given the limited resources and person work-hours required. The institutional researchers were encouraged to consider minorities as one major stratification. When conducting institutional effectiveness studies, the results will be very revealing about the relative effectiveness of minority students compared to majority students.

Previous research conducted at over 30 institutions has revealed that black students performed on average a whole letter grade lower than majority students. The factors that explain black students' performance in college often are comparable to those for majority students.

There were several factors found to be significant predictors of grades for minority students:

1. Feelings of racial discrimination were very important in explaining grades of both minority and majority college students. The degree of feelings of racial discrimination differed depending on the type of institution; however, black students reported higher degrees of feeling of racial discrimination than did majority students. White students on predominately black college campuses felt greater racial discrimination than did black students on black campuses, but the effect of these feelings on white students' grades was less than on black students at predominately white colleges.

2. The number of interfering problems was also significant. Students with few personal problems perform better in college.

3. High grade point averages in high school and high SAT scores predicted higher college grades for both black and white students.

4. Satisfaction with the institution contributed to successful academic careers. Blacks on predominately white campuses reported lower satisfaction with the environment.

5. Good study habits were a predictor of good grades for minority students. However, it was found that blacks have poorer study habits than whites.

6. High academic integration, contact between students and faculty on matters pertaining both to course work and career development, was an influential factor. Students at institutions where faculty had a low level of influence on student development tended to perform higher in terms of grades, but this was not true of retention. Retention rates were found to be motivated by faculty involvement.

7. Married students and students with relative strong peer relationships on campus were more successful in college. There was little difference in the peer relationships of black and white students, yet peer relationships were segregated racially.

8. Older students and non-transfer students tended to have higher grade point averages. One interpretation of this is that adjustment and continuity within the same institution helps encourage performance.

9. Socioeconomic status, which is perceived as a predictor of performance in college, was not significant in explaining student grades, but it was significant in retention and attrition rates. Forty-five percent of black students who attended these institutions were likely to graduate from those institutions over a period of five or six years as compared to 65 percent of the white students. Programs of study completion rates increased at private institutions.

10. SAT scores tended to over-predict the college performance of black students. Black students tended to perform lower than predicted by their SAT scores. This should have implications for policies on admissions as well as special programs at colleges and universities that are designed to contribute to minority student performance. Personal experience reveals that institutions tend to establish admission policies using very broad policy consideration. For example, an institution of 25,000 students attempted to improve the quality of its student body. One approach implemented was to increase both retention standards and admission requirements, with no distinction made in the admission requirements for minority and majority students. This resulted in a decline of enrollment, but a greater decline in minority enrollment in what previously had been an open admissions institution. The minority enrollment declined and still the minority students who were admitted subsequently performed lower than the majority students admitted by the same standards.

An examination is required for admission in Georgia and students falling below a certain level are placed in non-degree credit courses in developmental remedial programs. As a result, a higher percentage of minority students who are admitted to the institutions are enrolled in these developmental education programs. Institutional effectiveness studies must examine the progress an institution makes in preparing these students for entering the mainstream of the institutional curriculum. Both Georgia and Florida administer general education outcome measures and/or basic skills measurements at the junior level, resulting in some attrition that is also greater for minorities than majority students. The questions to be raised regarding adequate minority representation in the institutions are: Why are minorities performing at a lower level on these measures after two years of college and what can be done to eliminate the differences?

These are important questions. The level of adequate representation of minorities in graduate and professional schools, among graduate degree recipients, among college faculty, and in the professional and scientific work-force will never be reached until the quality of education for minorities in undergraduate institutions is improved. A focus of institutional effectiveness research must place emphasis upon minority issues, especially improving the quality of learning and development of students at undergraduate institutions.

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INSTITUTIONAL EFFECTIVENESS AND MINORITIES

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The topic of minority recruitment, performance, and retention can be related to some of the work that is being done in terms of assessment and placement standards in higher education nationally and in the Southeast specifically. Harold Hodgkinson (1985) and numerous other researchers, and higher education organizations and commissions are engaged in demographic projections concerning the future makeup of the college-age population. Without exception, these reports are projecting a future collegiate population that will be decidedly more "colorful" and diverse in appearance.

Couple these projections with the findings of the National Assessment of Educational Progress--that minority students lag far behind their white counterparts in reading and mathematics proficiency levels--and it is reasonable to suggest that large numbers of minority students will make up the college-age population that is underprepared for college-level work. Perhaps a more important question is: how will institutions respond to these demographic and preparatory changes in the college-age student pool? Whatever the response of higher education, there are likely to be profound social and economic impacts--either positive or negative. The following example emphasizes the importance of academic preparation and a changing workforce: today there are seven working people for every retired worker and by the year 2005 this will be reduced to three working people for every retired worker. This example makes it very clear how important a skilled and competent labor force will be in maintaining existing, socioeconomic standards and democratic ideals into the future.

In times of declining enrollment there are two ways to increase or maintain enrollment. One way is to increase the diversity (ethnicity, SES, age cohort, etc.) of the enrollment pool and, secondly, retain a higher proportion of those students already enrolled. As the traditional college enrollment pool declines in the near future, circumstances will require colleges and universities that wish to remain viable educational institutions to spend an inordinate amount of time and energy trying to retain more students, and especially minority students. As the competition increases for the remaining pool of students, it is very important for colleges and universities to pay closer, more focused attention to those programs that already exist and that are currently in place. Particular attention must be given to those programs that impact or play an important role in minority access, performance, and retention.

Remedial/developmental programs seem like a logical place to begin to address these issues and needs at the college level. For one reason, almost every public higher education institution has at the very least an informal remedial program. Nationally, and in the Southeast region in particular, well over 80 percent of the public institutions have special support services and curricula for underprepared freshmen. Secondly, these programs have demonstrated the ability to increase retention rates for the marginally prepared student. For these reasons, and when numbers from around the country indicate that up to 50 percent of all incoming freshmen--and even higher for minorities--are in need of additional academic preparation, it is clear what an important and essential role these programs can play in raising student retention rates in general and minority rates in particular.

Two examples where this has occurred are New Jersey and Tennessee. In both of these cases there are state-mandated assessment and placement programs at the college level. Also, in each state's assessment and placement program there are built-in information and data gathering procedures that document what is taking place in each program--assessing input and output characteristics of the curriculum, students, and faculty. This issue is raised because the inclusion of this information/data function as an integral part of the program design and structure is critical to the overall success that each program has demonstrated. Outcome assessments reveal that students entering colleges through remedial/developmental programs have equitable, and in many cases higher, retention rates than students who do not enter college through these programs. If in fact in the future more minority students will be entering college in need of additional academic support, it seems logical that through remedial/developmental programs colleges and universities will have an opportunity to address issues of minority access, quality education, and increased student retention--imagine, one college-level program that has strong possibilities of addressing three important higher education issues. In both New Jersey and Tennessee, published results indicate retention rates--to the second year and on to graduation--that differ only slightly between the two groups of students.

Increasing minority retention in the future by all indications will depend heavily on how the states and higher education institutions/systems develop policies to deal with remedial/developmental programs at the higher education level. Specifically, will colleges and universities be able to fully embrace these programs as viable and integral components of the institution's normal mission and function, and will the states support them accordingly? If the answer is yes, then it is plausible for higher education to go a long way toward enhancement of minority recruitment, performance, and retention.

One problem in higher education that keeps occurring and that interferes with information and knowledge collecting involves issues/questions that do not lend themselves to clear or simplistic answers. By the same logic, there are problems and issues in higher education that are solvable but only lack asking the right questions. In the case of the remedial/developmental issue in higher education, it is not the case that issues and questions of student underpreparation or college-level placement cannot be answered or addressed, it is just that educators, administrators, and policymakers have not identified this as an important area of inquiry and as a result are not asking the right questions. The New Jersey assessment program was cited earlier as a good example of a system that is graduating greater numbers of minority students, and this as a direct result of their college-level placement program. What are they doing as compared to other states and institutions to achieve these results? Basic lines of inquiry such as this need to take place. In order to effect change and expand the knowledge base, educators, administrators, and policymakers must realize the importance of fully understanding the value and impact remedial/developmental programs can have on increasing minority participation in higher education.

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KEY INGREDIENTS OF INSTITUTIONAL EFFECTIVENESS FOR MINORITIES

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Dr. Nettles' central themes amount to an answer to the question, "What does the topic of minority retention, performance, and recruitment have to do with a conference on institutional effectiveness?" I would like to reinforce this tie between the conference theme and the topic of this panel, but will do so in slightly different yet quite sympathetic terms.

The Challenge of Access with Quality: The economic and demographic shifts of an aging population and increased minority representation with regard to improving the future quality in higher education present challenges or opportunities for progress. Such progress must be measured in terms of participation and access as well as in terms of traditional academic standards. Policies which merely exclude students as a way of improving measured levels of achievement do not promote the kind of educational progress that we are going to need if our society is to meet the challenges of keeping its place in the international community, of keeping the strength of its democratic institutions, and of maintaining the life styles to which the American population has become accustomed.

The challenge before institutions is to find ways that will enable the achievement of two goals simultaneously: access (increased participation) and quality improvement in the traditional academic sense. To meet both of those goals for the same students at the same time, colleges simply must do a bigger and better job with larger numbers of students for which they have historically done the poorest job.

The Trends in the Enrollment of Black Students: The trends in the college and university enrollments of black students are by now widely reported and recognized (Marks, 1986, 1985, 1984, 1982; Mingle, 1987; ACE, 1987). Unless current trends are reversed, there will be fewer black students in higher education in 1990 than there are today. Analysis of the trends also shows that even before the "quality improvement" rhetoric took center stage, the participation rates of black students in higher education were declining.

Since some quality improvement strategies can negatively affect the achievement of the access goal, it is essential to examine factors which influence the enrollment trends of black students in higher education.

Demographic Influences on Enrollment Trends: It is important to increase the college participation of minority students, particularly of black students, in the future because they are going to be a larger percent of the total society and the work force in particular. While minorities will be a larger percent of the population seeking higher education, numerically there will be fewer in the college-age pool for the next ten years. With proportionally fewer black students seeking higher education and increased dropout rates of black students in high school, there is a further shrinking of the cohort of college-eligible black students. While the high school graduation rate of minorities has been increasing, it has not made up for the effects of declines in the size of the college-age cohort and of the declining proportion of black high school graduates seeking higher education. The only way to increase the representation of minorities from a demographic point of view is to start widespread and intensive programs to increase the high school enrollment rates of black students, to maintain the high graduation rates of those that remain in high school, and to increase the college participation rates of those graduating from high school (Marks, 1985).

The Academic Influences on Enrollment Trends: The differences in academic preparation and performance of black and white students took generations to create, and may take generations to solve. However, society may not be able to wait generations for the normal social and cultural development cycle. Differences of academic preparation must be attacked with a special vigor. Standardized test differences of a hundred points remain between black and white students on some tests. In the recent pilot program that the Southern Regional Education Board (SREB) sponsored with the National Assessment for Educational Progress, state-by-state comparisons of high school student achievement levels in reading, writing and other subjects are striking. The average reading level of eleventh-grade black students is equivalent to that of seventh-grade white students (SREB, 1985, 1986, 1987). In writing, the results showed that only about 30 percent of the white students have writing skills that are judged to be adequate for college-level work, and far fewer black students (about 15%) have such writing skills. Educational disadvantages due to social and economic disadvantages over the years are very persistent.

Evidence from a wide range of sources supports the proposition that academic preparation (a college preparatory curriculum) and academic performance are among the most important factors in promoting college attendance (Ramist, 1981). Extraordinary efforts are required to continue the elimination of educational disadvantages that are roadblocks to further progress toward the access with quality goal.

Student Financial Aid Influences on Enrollment Trends: Student financial aid on a per recipient inflation-adjusted basis has diminished substantially in the last eight years. Its distribution system is very complex and leads to the circumstance of some financial aid recipients receiving more money than their financial aid analysis reveals they need, while others receive far less than needed. This has a clear impact on economically disadvantaged students who are over represented among minority groups.

Changes in the level of funds available for student financial aid and changes to make the distribution system more equitable, while helpful and necessary, are not the key ingredient in promoting access with quality. Until preparation levels are improved substantially, significant growth in the numbers of black college students will not occur. As one wit put it, without scholarship, scholarships do not help. Additional student aid funds can only make marginal differences so long as academic disadvantages persist.

Institutional effectiveness evaluation efforts must incorporate attention to how the institution is serving minority students, black students in particular, because neither academic quality without access nor access without academic quality is effective higher education for the 1990s.

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MINORITY PERFORMANCE IN ACADEMIC SETTINGS

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Dr. Nettles has published research results which identify factors that make a difference in student performance within academic settings. In addition, he has stressed the need to give attention to noncognitive measures as well as continuing the use of cognitive indicators in making admission decisions. As an admissions director at Stanford, I had the opportunity to admit students based not only on their admission scores or grade point averages, but on how I felt they could contribute to the academic atmosphere.

Dr. Nettles remarked that colleges should not limit admission to just those black students who score 100 points less on the SAT than white students. He also said that institutional researchers should begin to aggregate data and look at its impact upon an institution's admission policies. Based on a research study in progress, funded by the Southern Education Foundation, I have collected aggregate data on academic and testing standards in five states. As a part of this research study, I used Georgia Southern College as an institutional pilot because the University System of Georgia in the fall of 1988 will require a new set of standards for college preparedness.

The sample for the institution pilot used a random 10 percent of all entering 1984 freshmen and all entering 1984 black students. To date those students have been tracked for three years. In terms of college preparedness, both the random sample and the black sample demonstrated virtually no difference in the precollege high school curriculum. In terms of their high school grade point average, there was a slight difference, 2.85 for the black students versus 2.70 for the other group. However, there was a significant difference in the SAT scores. The 10 percent sample had an approximate SAT composite of 834 points, the black sample had 729, a score disparity of 100 plus points. What happened in three years in terms of performance and retention? What are the differences, if any, in retention between these two groups? At the end of one year 65 percent of all freshman students remained in the college and 83 percent of all the black freshman students remained. By the end of the second year 49.6 percent of all the students remained while 67 percent of all the black students remained. During the spring quarter of 1987, 41 percent of the total sample of all students remained, and 55 percent of the black students remained.

What are the differences, if any, in performance over this period of time between these two groups? The 10 percent sample of all students had a GPA of 2.32, and the GPA for the black students was 2.23, almost no discernible statistical significance in the difference in the GPA. However, the students that remained at the end of this three-year period had a difference of 68 SAT points between the two samples. Dr. Nettles is correct in stating that noncognitive areas may explain why students, black or white, persist and that SAT scores may have limited predictive power for academic performance of black students.

According to a policy study by the Educational Testing Service, one of the best success indicators for preparing students to enroll in curriculums such as engineering or the health sciences is a summer science enrichment program. Georgia Southern has such a program and selects students with various SAT scores and a variety of noncognitive measures.

It has been shown in the health sciences that there is a positive correlated relationship between the SAT and the MCAT. Our students are selected basically because they are either academically or economically disadvantaged. By the time these students are at the point of pursuing professional education, we have data that can support their opportunity to enroll in professional schools. The bank of noncognitive information includes 16 personality factors, the Myer Briggs, and Sedlacek's instrument of noncognitive variables. We also used the Strong Campbell Interest Inventory for a limited number of students. This inventory revealed that the choices of students who selected medicine, dentistry, and pharmacy as careers were not related to their assessed interest patterns. We are finding that some students with excellent academic records and high SAT scores want to leave science and mathematics when they have completed the summer science enrichment program. Institutions need to conduct research studies regarding the relationship between noncognitive variables and cognitive variables and the predictive power of these variables upon student performance.

Most of the instruments, whether cognitive or noncognitive, do not take into account the minority student population. These measures were not normalized on this population. There are numerous ways to get through college in terms of surviving the experience. These ways may not be measured by the variety of instruments in use today by academic decision makers.

References

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